AMERICAN RAILROAD JOURNAL,
AND ADVOCATE OF INTERNAL IMPROVEMENTS.

PUBLISHED WEEKLY, AT No. 35 WALL STREET, NEW-YORK, AT THREE DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

D. K. MINOR, Editor.] SATURDAY, MARCH 23, 1833. [VOLUME II.—No. 12.

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AMERICAN RAILROAD JOURNAL, &c.

NEW-YORK, MARCH 23, 1833.

☞ A word to the *few* who have *not yet* complied with our terms: Do you not perceive by the *appearance* of the Journal that our expenses have materially increased? You may rest assured that *prompt* payment *only* will enable us to carry it through the volume with its present appearance. To those who have paid for the current volume, and especially to those who have so kindly sent us the amount of *two* or *more* subscriptions, we tender our thanks.

*** The Gentleman who returned *one* number, saying "my year is out," after *ten* numbers of the second Volume had been sent to him, is informed that it is received. He is also informed, that, under the circumstances where a particular request was made, that all who did not wish to be considered as subscribers would return the *first* number of the second Volume, he is in justice bound to pay for the Volume.

Canals in Great Britain.—We commence in this number of the Journal a brief account of the numerous Canals in Great Britain. It will be found highly interesting to those who are engaged in similar improvements in this country, as it gives the length, breadth, depth, and cost of each, as well as the present value of the stock.

Erratum.—In page 179, second column, and ninth line, for "1905," read "190."

New-York Canals.—We perceive by the Albany Evening Journal the New-York canal commissioners have reduced the tolls upon the Erie canal. The Journal says, that, "This reduction was demanded by considerations which deeply affected the prosperity of the state. Rival channels of communication are opening which threaten to divert the trade of the far West from our great commercial emporium."

The Canal Opened.—On Saturday night the water was let into the Pennsylvania canal opposite this place. The canal is now filled with water from its junction with the Union canal, at Middletown, to Pittsburg. The Susquehanna river has not been frozen over opposite this place during the season.—[Phil. Jubilee.]

The Commercial Herald, a new paper lately established in Philadelphia, has an excellent article on the public works of Pennsylvania, from which we extract the following facts:

	Miles.
State Canals in operation - - - - -	479½
" " to be finished this year - -	103½
Company Canals in use - - - - - -	280½
Grand Total of Canal Navigation in Pennsylvania in 1834 - - - - - - -	863½
Besides the State will finish this year two Railroads, whose length is - - - -	118
Total	981½

This does not include Railroads by private companies.

[*From the Boston Morning Post.*]

Railroad.—To merchants, men of capital, and all men of enterprise, interested in a good work both in New-York and in Boston.

Look on the map, and see the beautiful route for a railroad, and with comparative small expense, make a railroad from Providence to Stonington; then by 25 miles inland steam navigation (avoiding Point Judah) you arrive at the beautiful harbor of Greenport, where is good landing by a pier lately built for the accommodation of the whale fishery, and is a very flourishing place, situated on the east end of Long Island, (in New-York state,) and is a distance of about 100 miles from the city of New-York; and being of a most excellent soil, it may be called the garden of that city; is level, and for thirty miles there is scarcely a stone to be seen, nor a rise of ten degrees from a level of the sea, and a paradise to travel through, affording every comfort and convenience of life; with a railroad the most distant farmers might send their fine milk, butter, vegetables, &c. to the New-York market. The inhabitants of this island are a very moral and industrious people. The average height of the island to New-York city is about sixty feet above the level of the ocean, and forms a more favorable surface for the construction of a railroad, (it is believed,) than can be found of the same distance in any section of the United States. Can it be possible that this route can escape the notice of scientific men, and men friendly to improvement, public benefit, and their own interest. The good people of this favored island need waking up, and calling their county conventions for the purpose of obtaining a grant for a Railroad through the centre of the island—the extreme breadth of which is about 20 miles; the purpose of which is to unite the New-York and Boston travel through this most delightful land.

It is thought by a fair calculation that the speculation on the article of wood, (millions of cords may be bought) the profit of which would more than defray the whole expense of the railroad, were it to take place; and would be the straightest, nearest and cheapest, and best possible way to travel from New-York to Boston, summer or winter.

In addition to which, the produce of this rich soil, the most distant farmer or cultivator, may send fresh to market in the warmest weather.

No mortal ever witnessed a more beautiful scenery than may be found in traveling this route.

Then awake, New-York and Boston, and assist these good Islanders, that this good work may be accomplished, as it may be done, at an expence which would no doubt warrant great benefit to the stockholders; by a recent survey.

Pro Bono Publico.

We are indebted to a friend for a copy of the following bill, reported from the committee on internal improvements, to the house of delegates, and which we since learn has passed both houses.

A Bill, entitled a further supplement to the act entitled, An act to promote Internal Improvement by the construction of a Railroad, from Baltimore to the city of Washington, passed at December Session, 1830.

Whereas, it has been represented to the General Assembly of Maryland, by the Baltimore and Ohio Railroad Company, that there is a difficulty, in procuring the funds necessary to the construction of a Railroad from Baltimore to the city of Washington, under the original act to which this is a supplement, passed at December session, eighteen hundred and thirty, and the supplement thereto, passed at December session, eighteen hundred and thirty-one, arising from the option reserved to the State of Maryland, by the second section of the original act aforesaid, and by the third and ninth sections of the said supplement thereto, which option, so long as the manner of its exercise continues uncertain, deters individuals and corporations from embarking their funds in the undertaking—Therefore,

Sec. 1. Be it enacted by the Assembly of Maryland, That whenever the Treasurer of the

Western Shore of Maryland, shall be satisfied by the exhibition of the list of subscriptions, verified by the oath or affirmation of the President or chief officer of the Baltimore and Ohio Railroad Company, that the sum of six hundred thousand dollars has been bona fide subscribed to the stock of the Baltimore and Ohio Railroad Company, to be applied to the construction of a Railroad from Baltimore to the city of Washington, upon books to be opened for that purpose by the said Company, agreeably to the first section of the act, entitled "A supplement to the act, entitled An act to promote Internal Improvement by the construction of a Railroad from Baltimore to the city of Washington," the said Treasurer of the Western Shore shall subscribe, on behalf of the State of Maryland, the sum of three hundred thousand dollars, to the stock of the said Company, to be applied to the construction of a Railroad, from Baltimore to the city of Washington; the instalments on which sum shall be paid as called for by the said company, in certificates of stock of the State of Maryland, bearing an interest of four and a half per centum per annum, in the same manner, and upon the production of such proof as is required by the act passed at December session, eighteen hundred and twenty-seven, entitled "A supplement to the act, entitled An act for the promotion of Internal Improvement," chapter 104.

Sec. 2. And be it enacted, That the whole amount which shall be subscribed by the State of Maryland, individuals, and corporations, to the Stock of the Baltimore and Ohio Railroad Company, to be applied to the construction of the said Railroad from Baltimore to the city of Washington, shall be considered as a separate and distinct stock for and during the space of sixteen years from declaring and paying the second half yearly dividend of the nett profits derived from the use of the said Railroad from Baltimore to the city of Washington, as provided in the ninth section of the supplement passed at December session, eighteen hundred and thirty-one, to the original act authorising its construction.

Sec. 3. And be it enacted, That the capital upon which the nett profits derived from the use of the said Railroad shall be apportioned, and which is to be taken and held as separate and distinct for the construction of the said Railroad from Baltimore to the city of Washington, shall be ascertained and estimated as is provided for by the fifth section of the said supplement, passed at December session, eighteen hundred and thirty-one.

Sec. 4. And be it enacted, That the right heretofore reserved to the State of Maryland, to hold the sum subscribed by it to the stock of the Baltimore and Ohio Railroad Company, to be applied to the construction of the said road from Baltimore to the city of Washington, as a separate and distinct stock, so far as the same is inconsistent with the provisions of this act, and the same is hereby repealed.

Sec. 5. And be it enacted, That the Baltimore and Ohio Railroad Company, be, and it is hereby authorised to subscribe to all such portion of the stock necessary to complete the said road from Baltimore to the city of Washington, which may remain unsubscribed at the end of thirty days after the books required to be opened by this act, and the acts to which it is a supplement, shall have been opened for general subscription; and the President and Directors of the said Baltimore and Ohio Railroad Company shall be, and they are hereby authorised to borrow, from time to time, any sum or sums of money which may be necessary to enable them to pay the instalments that may become due by them, on the stock so subscribed by them, for the construction of the said road from Baltimore to the city of Washington; and the said President and Directors are also hereby authorised to pledge the property and funds of the said company, as a security for the payment of any and every sum so borrowed, and the interest thereon.

Sec. 6. And be it enacted, That the subscription authorised to be made by the Mayor and City Council of Baltimore, under the act, entitled, "A supplement to the act, entitled an act to promote Internal Improvement, by the construction of a Railroad from Baltimore to the city of Washington," must be made within six months after the passage of this act; and the subscription authorised in like manner by the Corporations, owning the Turnpike Road between the cities of Baltimore and Washington, must be made within ninety days after the passage of this act: —or the right to make such subscriptions shall cease and determine.

Sec. 7. And be it enacted, That the Baltimore and Ohio Railroad Company shall be entitled to charge and take for conveying each person the whole distance between the cities of Baltimore and Washington, not exceeding one dollar and seventy-five cents.

Sec. 8. And be it enacted, That the Baltimore and Ohio Railroad Company shall pay to the Treasurer of the Western Shore of Maryland, on the first day of January in each and every year, for the use of the State, the sum of twenty-five cents for each person transported the whole distance between the cities of Baltimore and Washington, by the said Company, during the year last preceding; and it shall be the duty of the President or chief officer of the Baltimore and Ohio Railroad Company, to report on oath or affirmation, to the General Assembly, on the 1st day of January, or as soon thereafter as the said Assembly shall convene, in each and every year, the number of persons transported the whole distance between the cities of Baltimore and Washington during the preceding year.

Sec. 9. And be it enacted, That the times limited in the eighth section of this act, entitled, a supplement to an act to promote Internal Improvement, by the construction of a Railroad from Baltimore to the city of Washington, for the commencement of the actual construction of the said road from Baltimore to the city of Washington, be extended to eighteen months from the passage of this act.

Sec. 10. And be it further enacted, That all such parts of the original act, and the supplement thereto, as are at all inconsistent with the provisions of this act, be, and the same is hereby repealed.

[*From Partington's British Cyclopædia.*]

CANALS OF GREAT BRITAIN.—The English were a century after the French in commencing the construction of canals upon a large scale. The first considerable work of this description was the Sankey Canal, for which an act of parliament was passed in 1755; the object of the act being the improvement of the navigation of Sankey Brook; which plan was afterwards changed to that of a separate canal of 12 miles in length. While the work on this canal was in progress, in 1758, the Duke of Bridgewater obtained an act of parliament for making Worsley Brook navigable from Worsley Mill to the river Irwell, for the purpose of facilitating the transportation of coals from his estate to Manchester; but seeing the advantages of still-water navigation over that of a river, he conceived the project of a canal over dry land, passing the river Irwell by an aqueduct, and thus making a communication between his coal mines and the town of Manchester on one level. The plan was subsequently extended, and the duke, who lived 14 years after the commencement of the execution of his project (he died in 1772, at the age of 56), devoted his time and his fortune to the execution of this great work, with the assistance of an engineer distinguished for his genius. He diverted all his resources into this channel, and to enlarge his means for the undertaking, he limited his personal expenses to £400 a year, and is even supposed to have shortened his life in consequence of the toils and anxiety attendant upon so arduous an enterprise. It was a grand project, worthy of the sacrifices he made to it. And it is a stupenduous monument, whereby his memory is associated with the wealth and prosperity of our country. The works were projected by the celebrated engineer John Brindley, and executed under his direction, and constitute a lasting memorial of his genius and skill. The difficulties he had to encounter are of so interesting a nature, that we had better give a description of his labors somewhat more in detail. The principle laid down at the commencement of this business reflects much honour on the noble undertaker, as well as upon his engineer. It was resolved that the canal should be perfect in its kind, and that, in order to preserve the level of the water, it should be free from the usual obstructions of locks. But, in accomplishing this end, many difficulties occurred, which were deemed insurmountable. It was necessary that the canal should be carried over rivers, and many large and deep valleys, where it was evident that such stupendous mounds of earth must be raised, as could scarcely, it was thought, be completed by the labor of ages: and, above all, it was not known from what source so large a supply of water could be drawn, as, even upon this improved plan, would be requisite for the navigation. But Mr. Brindley, with a strength of mind peculiar to himself, and being possessed of the confidence of his great patron, who spared no expense to accomplish his favorite design, conquered all the embarrassments thrown in his way, not only from the nature of the undertaking itself, but by the passions and prejudices of interested individuals: and the admirable machines he contrived, and the methods he took, to facilitate the progress of the work, brought on such a rapid execution of it, that the world began to wonder how it could have been esteemed so difficult. Thus ready are men to find out pretences for lessening the merit of others, and for hiding, if possible, from themselves, the unpleasant idea of their own inferiority.

When the canal was completed as far as Barton, where the Irwell is navigable for large vessels, Mr. Brindley proposed to carry it over that river, by an aqueduct of 39 feet above the surface of the water. This, however, being generally considered as a wild and extravagant project, he desired, in order to justify his conduct towards his noble employer, that the opinion of another engineer might be taken; believing that he could easily convince an intelligent person of the practicability of his design. A gentlemau of eminence was accordingly called in; who, being conducted to the place where it was intended that the aqueduct should be made, ridiculed the attempt; and when the height and dimensions were communicated to him, he exclaimed, "I have often heard of castles in the air, but never before was shown where any of them were to be erected." This unfavorable verdict did not deter the Duke of Bridgewater from following the opinion of his own engineer. The aqueduct was immediately begun; and it was carried on with such rapidity and success, as astonished all those who but a little before condemned it as a chimerical scheme. This work commenced in September, 1760, and the first boat sailed over it on the 17th of July, 1761. From that time, it was not uncommon to see a boat loaded with forty tons drawn over the aqueduct, with great ease, by one or two mules; while below, against the stream of the Irwell, persons had the pain of beholding ten or twelve men tugging at an equal draught: a striking instance of the superiority of a canal navigation over that of a river not in the tideway. The works were then extended to Manchester, at which place the curious machine for landing coals upon the top of the hill gives a pleasing idea of Mr. Brindley's address in diminishing labor by mechanical contrivances.

The following are the principal canals in Great Britain:—[Originally denotes the first assumed cost per share, where the actual cost is not ascertained:]

Aberdare—from Glamorganshire to Abernant; made 1793, length 7¼ miles, ascent and descent 40 feet, or 5.5 per mile. Length of the boats, 12 feet; breadth, 5. Number of shares, 221; originally, 100*l*.

Aberdeenshire—from Aberdeen Harbor to Don River, at Inverary Bridge; made 1805, length 19 miles, ascent and descent 170 feet, or 8.8 per mile, breadth 20 feet, depth 3½; 17 locks.

Andover—from Southampton Water to Andover; made 1790, length 22½ miles, ascent and descent 177 feet, or 7.8 per mile. Has been par-

tially abandoned. Number of shares, 350; originally, 100*l.*

Ashby-de-la-Zouch—from the Coventry Canal, at Marston Bridge, to an iron railway, 3½ miles long, at Ticknall; made 1805, length 40¼ miles, ascent and descent 224 feet, or 5.6 per mile. The first 30 miles are level, forming, with the Coventry and Oxford Canal, a level of 73 miles, without including the branches. It has tunnels at Ashby-de-la-Zouch and Snareton (the length of the two is 700 yards), and an iron railway, 6 miles in length, to the Cloudshill mines. It has 2 aqueduct bridges. At Boothorpe, a steam-engine is erected, to convey the water to a feeder for the summit-level. Number of shares, 1482; cost, 118*l.*; price in 1833, 74*l.*

Ashton-under-line, or Manchester and Oldham, and branches—from Rochdale Canal, at Manchester, to Huddersfield, at Duckenfield; made 1797, length 18 miles, ascent and descent 152 feet, or 8.4 per mile, breadth 33–15 feet, depth 5 feet; has 3 aqueduct bridges; boats of 25 tons burthen. Number of shares, 1760; average cost, 97*l.* 18*s.*; price in 1833, 120*l.*

Barnesley and branches—from river Calder, below Wakefield, to Barnby Bridge; made 1799, length 18 miles, ascent and descent 120 feet, or 6.7 per mile; has 1 aqueduct bridge and 20 locks. Number of shares, 720; cost, 160*l.*; price in 1833, 247*l.*

Basingstoke—from Wye to Basingstoke; made 1790, length 37 miles, ascent and descent 195 feet, or 5.3 per mile; has 72 bridges and 29 locks. Number of shares, 1650; cost 100*l.*; price in 1833, 5*l.* The Tingis branch is 5½ miles in length. The boats are of 45 tons burthen. It has a tunnel of ¾ mile.

Birmingham—commences in the Birmingham and Staffordshire Canal, and terminates in the Birmingham and Fazeley Canal; made 1772, length 22½ miles, ascent and descent 204 feet, or 9.07 per mile, breadth 40 feet, depth 4½ feet. The boats are 70 feet long, and 7 wide, and of 22 tons burthen. Number of shares, 4000; originally, 17*l.* 10*s.*; price in 1833, 239*l.* The tonnage is not to exceed 1½*d.* per mile.

Birmingham and Fazeley—from the Coventry Canal, at Whittington Brook, to Birmingham Canal, at Farmer's Bridge; made 1790, length 16½ miles, ascent and descent 248 feet, or 15 per mile, breadth 30 feet, depth 4½ feet; has 44 locks; boats, 22 tons burthen.

Brecknock and Abergavenny—from the Monmouthshire Canal to Brecon; made 1776, length 33 miles, ascent and descent 68 feet, or 2 per mile. There is, at Abergavenny, an iron railway a mile in length; at Wain Dew another 4¾ miles, and at Llangroiney another 1¼ mile. It has a tunnel of 220 yards, and 3 aqueduct bridges. Number of shares, 958; originally, 150*l.*; price in 1833, 80*l.*

Duke of Bridgewater—from the tide-way of the Mersey, at Runcorn Gap; and at Longford Bridge divides into 2 branches, one terminating at Manchester, the other at Pennington, near the town of Leigh; made 1758, length 40 miles, ascent and descent 83 feet, or 2 per mile, breadth 52 feet, depth 5. The whole lockage is the 83 feet at the Mersey, in rising from tide-water, by 10 locks. This canal, with a part of the Trent and Mersey Canal connected with it, makes a level of 70 miles, 30 of which are on this canal. Mr. Cary states that there are about 16 miles of canal under ground within the mountains at Worsley. It has 3 principal aqueduct bridges, and several smaller ones. Arched branches pass off from it at considerable distances, under the town of Manchester, from one of which coals are hoisted up to supply the inhabitants, which the proprietors, successors to the Duke of Bridgewater, are bound to furnish them at 4*d.* for 140 lbs.: an advantage to which much of the prosperity of that town has been attributed. The embankment over Stratford Meadows is 900 yards long, 17 feet high, and 112 feet wide at the base; that at Barton Bridge is 200 yards long, and 40 feet high. The tonnage is 2*s.* 6*d.*

Bristol and Taunton—from Taunton Bridge to the mouth of the Avon, below Bristol; price in 1833, 70*l.*; length 41 miles.

Burrowstonness—made 1790, length 7 miles.

Caistor—from Anchole to Caistor; made 1793, length 9 miles.

Caldon and Uttoxeter—a branch of the Grand Trunk Canal, terminating at Uttoxeter; 28 miles in length; ascent and descent 126 feet, or 4.8 per mile.

Caledonian—made 1822, 21⅞ miles in length, ascent and descent 1905 feet, or 8.6 per mile, breadth 40 bo., depth 20. This stupendous canal passes through a chain of lakes, or locks, and narrow arms of the sea; and by making 21⅞ miles of canal, and deepening the beds of the rivers Lochy and Oich, and dredging to deepen a part of Loch Ness (in the whole a distance of 4⅛ miles, making the total length of excavation 25 miles, with a lockage, up and down, of 190 feet), an interior navigation of 250 miles is opened across the central part of Scotland, from the Murray Firth, on the eastern coast, to Cantyre on the western, and about opposite to the northern coast of Ireland; being one-half of the distance of the navigation between the same extreme points, round the northern coast by the Orkneys. It has 27 locks, including the tide locks, one of them 170, but most, if not all the others, 180 feet long, and all forty feet wide, thus opening a ship navigation through the midst of the country, rising, at the summit level, 94 feet above the tide-water of the eastern coast, and 96½ feet above that of the western, showing the ocean to be 2½ feet higher on the eastern. At Fort Augustus, where it leaves Loch Ness in a north-westerly direction, this canal is cut through the glacis of the fortification, thus adding to the military defences as well as to the appearance of the fort, which, with the five locks of masonry rising behind, presents a grand combination of civil and military engineering amid romantic mountain scenery. From Lock Ness, passing in the westwardly direction of the canal to Loch Oich, 1¾ mile, the land is 20 feet above the water line, which, with the depth of water in the canal, makes an excavation, in this distance, of 40 feet in depth, with a bottom of 40 feet in breadth. To save rock-cutting, in descending, in the westwardly direction, as before, from Lock Oich to Loch Lochy, the natural difference of the surfaces of the two lakes being 22 feet, the whole area of Loch Lochy, which is 10 miles in length and 1 in breadth, is raised 12 feet. In the last 2 miles, before the canal in its westerly direction enters Loch Eil, there is a descent of 64 feet, which is passed by 8 connected locks, each 180 feet long by 40 in breadth. These locks are founded on inverted arches, exhibiting a solid and continnous mass of masonry 500 yards in length and 20 yards wide, in which no flaw has yet been discovered. The gates are of cast iron. This system of locks has received the fanciful appellation of *Neptune's Staircase;* and the appearance of large vessels, with their masts and rigging, descending these stupendous locks, from the hill towards Loch Eil, is most majestic and imposing, exhibiting a striking instance of the triumph of art. In the distance of 8 miles, from Loch Lochy to tide water in Loch Eil, the canal in passing along the north-westerly bank of the river Lochy, crosses, by aqueduct bridges, three large streams and 23 smaller ones. Since the construction of this canal, upwards of a million of forest trees have been planted along its borders. The cost of this great national work was, for

Management and travelling expenses,	£29,000
Timber, - - - - - -	68,600
Machinery, cast iron work, &c. -	121,400
Quarries and masonry, - - -	195,800
Shipping, - - - - -	11,000
Labor and workmanship, - - -	418,000
Houses and buildings, - - -	4,600
Purchase and damage of land, -	47,900
Horse labor, - - - - -	3,000
Road making, - - - - -	4,000
Incidental expenses, - - -	2,000
	905,300
Add, to complete the dredging, -	7,200
	£912,500

Assuming the number of miles operated upon to be 25, the canal cost 36,500*l.* per mile. It was constructed under the direction of Thos. Telford, Esq.

Cardiff, or Glamorganshire—from a sea-basin on the Severn, near Cardiff, to Merthyr; made 1775, length 25 miles, ascent and descent 600 feet, or 24 feet per mile; is connected with various railways, one of which is 26¾ miles long. Number of shares, 600; cost, 172*l.* 13*s.* 4*d.*; price in 1833, 290*l.*

Chester—from the Dee, at Chester, to Nantwich, where it communicates with the Whitchurch branch of the Ellesmere canal; made 1775, length 17½ miles, ascent and descent 170 feet, or 9.7 per mile.

Chesterfield—from the Trent at Stockwith, to Chesterfield; made 1776, length 46 miles, ascent and descent 380 feet, or 8.2 per mile; has 65 locks and 2 tunnels, together 2350 yards long, and 9½ feet wide. The lower part of the canal is navigable for boats of from 50 to 60 tons burthen, and the higher, being but 26 or 28 feet broad, is navigable for boats of only 20 or 22 tons burthen. These boats are 70 feet long and 7 feet broad. Number of shares, 1500; cost 100*l.*; price in 1833, 176*l.*

Coventry—a part of the line of canal between London and Liverpool; made 1790, length 27 miles, ascent and descent 96 feet, or 3.6 per mile; price in 1833, 680*l.*

Crinan—from Lake Gilp to Lake Crinan; made 1805, length 9 miles, ascent and descent 117 feet, or 13 per mile. Number of shares, 1851; cost, 50*l.*; price in 1833, 2*l.* 10*s.*

Cromford—from the Erewash canal at Langley, to Cromford; made 1794, length 18 miles, ascent and descent 80 feet, or 4.4 per mile, breadth 26 feet. It has several tunnels, and passes the river Derwent by an aqueduct 200 yards long and 30 feet high. The arch over the channel of the river is 80 feet broad. Another aqueduct over a branch of the Derwent is 200 yards long and 50 feet high. Each aqueduct cost about 3000*l.* Number of shares, 460; cost, 31*l.* 2*s.* 10*d.*

Croydon—from Grand Surry Canal to Croydon; made 1801, length 9½ miles, ascent and descent 150 feet, or 15.8 per mile. It has 23 locks. Number of shares, 4546; originally, 100*l.*; price in 1833, 1*l.*

Dearne and Dove—from the river Dove, between Swinton and Mexburgh, to Barnesley canal; made 1804, length 9½ miles, ascent and descent 125 feet, or 6.6 per mile. The boats are from 50 to 60 tons burthen. It has two branches of 3¼ and 1¾ miles in length.

Derby—from the river Trent to Derby; made 1794, length 9 miles, ascent and descent 78 feet, or 8.6 per mile, breadth 44–24 feet, depth 4 feet. Number of shares, 600; cost, 110*l.*; price in 1833, 140*l.* It has a branch, the Erewash, 8½ miles in length.

Dorset and Somerset—from the Kennet and Avon canal to the river Stour; made 1803, 42 miles in length; has a branch 9 miles long.

Dublin and Shannon—from Dublin, at the mouth of the Liffey, to the river Shannon, near the town of Moy; made 1776, length 65½ miles. It passes 24 miles across a marsh, in which the absorbing nature of the soil rendered the work enormously expensive.

Lawton branch—length 21 miles.
Miltoun branch—length 7 miles.
Bog of Allen branch—length 3 miles.
Edenderry branch—length 1 mile.
Kildare branch—length 6 miles.

Dudley—from the Worcester and Birmingham canal; made 1776, length 10½ miles, ascent and descent 35 feet, or 3.3 per mile, depth 5 feet. It has 61 locks; 3 tunnels, one 3776 yards in length, another 623 yards, and the other 2926 yards, all 13½ feet wide; and near one of them, the Laplat tunnel, it passes 9 locks, nearly contiguous. Number of shares, 2060; originally, 100*l.*; price in 1833, 147*l.*

Stourbridge branch—length 2 miles.
Dudley branch—length 1½ miles.

Edinburgh and Glasgow—length 50 miles. This canal is proposed to commence at Leith, in

the Forth, and terminate in the Clyde at Glasgow.

Ellesmere, and Chester, and branches—made 1804, length 109 miles, ascent and descent 755 feet, or 6.9 per mile. This canal is said to be the first constructed in England for agricultural purposes, as well as trade. It has 1262 yards of tunnelling. Number of shares, 3575; cost, 133*l.*; price in 1833, 75*l.*

Erewash—from the Trent to Cromford canal; made 1777, length 11¾ miles, ascent and descent 181 feet, or 15.4 per mile; price in 1833, 75*l.*

Fazeley—made 1790, length 11 miles. Is a part of the Liverpool line, joining the Grand Trunk with the Coventry Canal. It is entirely level. The Fazeley and Birmingham, and the Birmingham, are continuations of this.

Forth and Clyde—from the tide-water, at the junction of the river Carron with the Forth, to Glasgow; made 1790, length 35 miles. It was the first considerable work of the kind undertaken in Scotland, having been commenced in 1777, and completed in 1790. It ascends, from the Forth to the summit, by 20 locks, 156 feet, in 10½ miles, and keeps this level 18 miles, to Glasgow, and, one mile beyond that city, terminates in the Monkland Canal basin. About 2¾ miles north of the port of Dundas, near Glasgow, a branch of the canal passes off 8¾ miles, crossing the Kelven by a magnificent stone aqueduct, to the tide-water at Bowling Bay, to which it descends by 19 locks, 74 feet in length, and 20 in breadth. When full, it has 8 feet of water; price in 1833, £540.

Glasgow, branch of the above, length 2¼ m.

Foss Dyke—from the Trent, at Torksey, to the Witham; length 11 miles. It is a level.

Glasgow and Saltcoats—made 1812, length 33½ miles, ascent and descent 168 feet, or 5 per mile.

Glenkenns—from the Dee, at Kirkcudbright, to Dalry; made 1802, length 27 miles.

Gloucester—a channel for ship navigation, to avoid the windings of the Severn from Berkley Hill, where it leaves that river, to Gloucester, where it joins the river again; made 1793, length 18½ miles, depth 15 to 18 feet. Number of shares 1960; price in 1824, £100, and a loan of £60 per share, making the investment £160 per share.

Hockcrib, branch of the above, length 2 miles, breadth 70 feet, depth 15 to 18 feet.

(*To be continued.*)

[*From the Philadelphia Commercial Herald.*]

PHILADELPHIA AND TRENTON RAILROAD.—In our paper of Friday we furnished a list of railroads in Pennsylvania actually finished, or in a train for early completion. Among others we mentioned the Philadelphia and Trenton Railroad, as one upon which operations were about to commence.

Frequent inquiries having since been made, in reference to that work, we have taken pains to ascertain the particulars as to its present situation, its prospects, and its probable advantages to the public and the stockholders. We have ascertained to our satisfaction that the work is certainly going on. That the grading of the Road for a double track the whole distance, and the construction of all the Bridges on the line is actually under contract, and to be completed ready for the laying of Rails by the first day of January next. The Engineers are now busily employed in staking out the work, which will be commenced as soon as the weather will admit. That the timber and stone are actually being procured for the Bridges, and that satisfactory arrangements have been made for damages, with a number of individuals owning property along the Line, and their several claims promptly paid by the Company; and that further agreements for damages are daily entered into, entirely to the satisfaction of all the parties concerned. That it is the intention of the Company to economize as far as consistent with utility, in the construction of the work, and in accordance with these views, they will lay a single track of wooden superstructure on the most approved plan and of the best materials, using the flat or plate iron Rail. That they have received several very advantageous offers to furnish Timber and Iron, and are hence enabled to ascertain, without the fear of being deceived in their estimate, that the whole cost of Road formation, and laying a single track, with a sufficient number of sidings or turn outs, including damages and all other incidental expenses, cannot exceed three hundred and fifty thousand dollars, or at the utmost four hundred thousand.

They hope also to have a portion of the Rails laid during the present season, and found their immediate expectations of realizing a reasonable income for the capital invested in the construction of the Road from calculations of this kind:

The amount received by the Union and Citizens Lines, jointly, during the year 1831, for way passengers alone, exclusive of through passengers and transportation of goods between Philadelphia and New-York, was about $106,000

Suppose of that sum $40,000 was received for way passengers going eastward from New-Brunswick, and that the Union Line will take one half of the remainder, is 73,000

Leaves the balance for the Philadelphia and Trenton Railroad 33,000

Add for carrying the mail and mail passengers 7,000

" for stage passengers in the Easton and New-Hope River Line 3,000

" for stage passengers in the Newtown and Attleborough Line 1,000

" for carrying all the passengers between New-York and Philadelphia in winter, say 50 each way or 100 per day for 63 days, allowing the steamboat to run 250 days (Sunday's not included) at $1 each 6,300

Transportation during the same time 5,000

*Pleasure excursions to Frankford, Holmesburg, Cornwell's, Bristol, Morrisville and Trenton 12,000

Business Travel and Transportation of Goods between Philadelphia and Frankford, Holmesburg and other places on the Line, heretofore done by stages and waggons 8,000

Probable aggregate Receipts $75,300

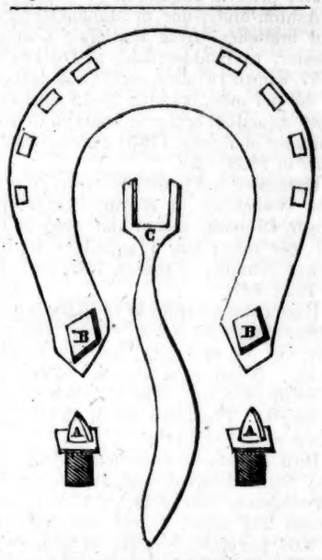
From which deduct Expenses:

Cost of Locomotives and Cars	$15,000	
20 per cent. interest on this sum is	3,000	
Expenses of running Locomotives at $20 per day	7,300	
Repairs and superintendence of Roads	5,000	
		15,300
		60,000
Deduct Interest on Capital of $400,000 at 6 per cent.		24,000
Surplus,		$36,000

Allowing a dividend of 15 per cent. on $400,000 of Capital.

The inducements for the Company to go on with the work, held out by this statement, so far exceeded our expectations, that our first impression was to doubt the whole of it, and set it down like some other calculations of the present day, as looking very well on paper, but having no practical reality. But after a careful examination of the several items of which it is composed, and from subsequent inquiries, diligently made of persons who have the best opportunity of knowing their correctness, we could not resist the conviction that if it contained any errors they were on the safe side. In addition to this, it may not be improper to observe, that with the exception of 63 days in winter, the whole calculations are based upon the supposition of carrying way passengers alone, not one through passenger between New-York and Philadelphia being taken into the account. Now as there will certainly be two routes between those two cities, and as it is as certain that the public will exercise their undoubted right of choice between them, it follows that a portion of the *through* travellers will take this route. If that portion be but one third of the whole, (judging from the amount heretofore received for through passengers,) this portion of the Line would receive $21,000 in addition to the above income, making an aggregrate clear income of $81,000 a year, or over 20 per cent. on the Capital invested.

*This will be deemed a moderate estimate when the fact is known, that about $12,000 was received on the Philadelphia and Germantown Railroad during the first six months it was in operation, notwithstanding the alarm of cholera for about half the time, almost destroyed the pleasure travelling.



Improved Horse-Shoe. By T. P. [From the Voice of Humanity.]

SIR,—I was lately travelling in a coach, early in the morning; it was one of those mornings which are so distressing to smooth-shod horses. In the night there had been a considerable fall of sleet, with a little rain, and this fall was immediately followed by a very hard frost, so that the road was one complete sheet of ice. Coming on so suddenly, there was no time to get the horses rough-shod, and their consequent suffering was great. They were down and up, first one and then another, all the way.

In order to get up one little hill, all the passengers were asked to get out and off from the coach, and even then it was with the greatest difficulty that the coachman could force the horses up. He was obliged to "lash them into madness;" sometimes two were down together, and once all four were down at the same time, and when they had scrambled to the top, they were in a pitiable state of exhaustion, the sweat literally running from them as though warm water had been poured on their backs, although so cold a morning.

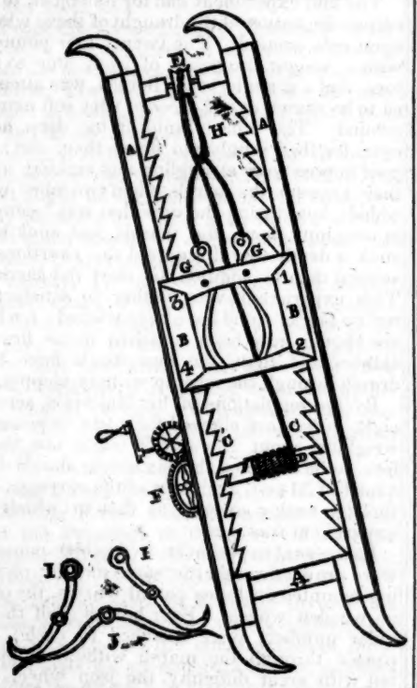
It struck me at the time that it would be easy to make horse-shoes which might be turned up, as it is termed, in a few minutes. I send to your appropriate publication a drawing of the sort of shoe which I have invented.

The two steel nuts marked B are made barely a quarter of an inch high, about one-eighth and a half, and worn in the winter when the roads are not slippery. When the frost comes, and you wish the horse turned up, or more properly speaking, rough-shod, you take out the two nuts marked B by means of the spanner marked C, and put in the two steel nuts marked A. The whole is done in a few minutes. Mr. Holmes, the veterinary surgeon of this town, has lately shod some horses in this way, and it answers well. When the groom or ostler picks his horses' feet every night, he should at the same time take out the nuts, put a little oil or grease to them, and screw them in again tightly: this is to prevent their getting fastened by rust. There should always be a little stock

of nuts, that as they wear down they may be replaced; and they must not be permitted to wear down lower than that state in which they can be turned out by the spanner. The prevention of the very injurious effects upon the feet of horses by their shoes being taken off and turned up (often required from frost in a day or two after they have been newly shod) is worth consideration, to say nothing of its being done in haste and the foot often pricked.

Above all this, rational humanity and kindness to those docile, useful, and noble animals, should be our main object. Let them ever be considered as gifts from the Almighty Creator, for our use and comfort, and let them ever be treated with gentleness. Indeed, I believe they are seldom ill-treated but by men of vulgar minds, unthinking or uneducated; or, if educated, their education not based on Christian principles, and, without that base, I hold all education defective, if not mischievous.

Birmingham, Feb. 9, 1832.



Improved Cellar Steps. By R. Gooch. [From the London Mechanics' Magazine.]

Sir,—The prefixed is a rough sketch of a machine, which was invented by me a few years ago, for the purpose of raising casks out of cellars. A model of it was sent to the Mechanics' Institution of this city, and purchased by it—at a price, however, which rewarded me very inadequately for the trouble the invention had cost me. The advantage of this machine over those in common use is, that provided a rope should break or slip by accident, no injury can be sustained, either to the goods or to the person employed, which now too often occurs.

AAA is a strong wooden frame, of such size and length as may suit the work or place it is intended for. The inside of the frame is rabbited, and covered with an iron plate CC, which plate is notched, and acts as ratches on each side the machine. On these slide at liberty another wooden frame or carriage BB, and at the corners, marked 1, 2, 3, 4, there are four friction-rollers, to give freedom to its working on the plates. GG are two palls, fixed on the carriage BB, shown at H. The spring J makes the palls keep to the work and act upon the ratches CC. H is a rope, which is attached to the tails of the palls, and passes over the pulley E, and is continued to, and fastened on, the roller D, which being put in motion by the winch and wheels F, will, with equal ease and safety, either raise the carriage, or let it down. Should a rope break, the palls will immediately act and stop the carriage.

[*From the Albany Argus.*]

Reduction of Canal Tolls.—We publish this morning the Rates of Tolls on the New York Canals, as revised and established at the present session of the Canal Board.

It will be seen by comparing the present rates with the tolls heretofore charged, that important reductions have been made upon many of the leading articles transported upon the canals. Flour, salted beef and pork, butter and cheese, beer and cider, heretofore charged at 7 mills per 1000 pounds per mile, are now reduced to 5 mills: The tolls upon stoves and all other iron castings, are reduced from 14 mills to 10 mills: wheat, and other agricultural productions reduced from 7 to 5 mills: merchandise, and all articles not enumerated passing *from* tide water, heretofore charged at 14 mills, are reduced to 12 mills: all non-enumerated articles passing *towards* tide water, are reduced from 7 to 5 mills per 1000 pounds per mile.

The subject of modifying the tolls, in order to prevent a diversion of the trade from the Erie Canal through the Welland Canal, and otherwise, has been urged upon the consideration of the Canal Board for several years, by those who are interested in the business upon the Erie Canal. After the most mature reflection upon this subject, those to whom the legislature have delegated the authority of regulating the tolls, have become satisfied that the time has arrived when it is proper, if not necessary, to reduce the tolls, in order to secure to our own cities, and to the whole line of the Erie Canal, the business and benefits of the trade of the great West.

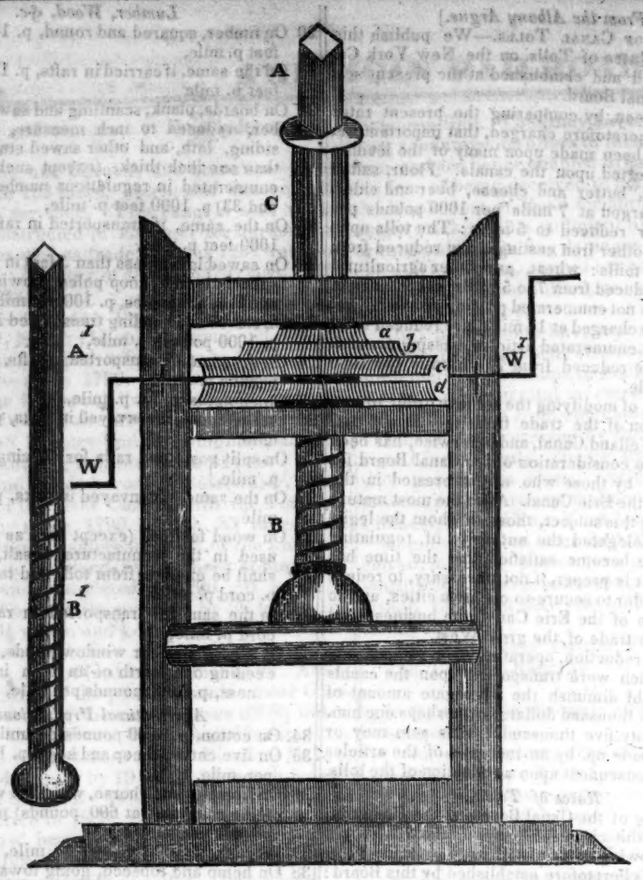
The rate of reduction, operating upon the quantity of articles which were transported upon the canals in 1832, would diminish the aggregate amount of toll, a hundred thousand dollars, or perhaps one hundred and twenty-five thousand. This sum may or may not be made up, by an increase of the articles transported, consequent upon a reduction of the tolls.

Rates of Toll.

At a meeting of the Canal Board, at the Comptroller's office in the city of Albany, on the 9th March, 1833, the following rates of toll were established in lieu of all rates heretofore established by this Board:

No.		cts. m. fr.
	Provisions.	
1	On flour, salted beef and pork, butter and cheese, beer and cider, per 1000 pounds per mile,	0 5 0
2	On bran and ship-stuffs in bulk, p. 1000 pounds p. mile,	0 5 0
	Iron, Minerals, Ores, &c.	
3	On salt mnufactured in this State, p. 1000 pound p. mile,	0 2 3
4	On foreign salt, p. 1000 pounds p. mile,	5 0 0
5	On gypsum, the product of this state, p. 1000 p. mile,	0 2 5
6	On brick, sand, lime, clay, earth, leached ashes, manure and iron ore, p. 1000 p. mile,	0 2 5
7	On pot and pearl ashes, mineral coal, charcoal, pig iron, broken castings and scrap iron p. 1000 pounds p. mile,	0 5 0
8	On stove and all other iron castings, going to or from tide water, p. 1000 pounds p. mile,	1 0 0
9	On copperas, going towards tide water p. 1000 pounds p. mile,	0 5 0
10	On bar and pig lead, going towards tide water, 1000 pounds p. mile,	0 5 0
	Furs, Peltries, Skins, &c.	
11	On furs and peltry, (except deer, buffalo and moose skins,) p. 1000 pounds p. mile,	1 4 0
12	On deer, buffalo and moose skins, p. 1000 pounds p. mile,	0 7 0
13	On sheep skins and other raw hides of domestic animals of the U. S. p. 1000 pounds p. mile,	0 7 0
14	On imported raw hides of domestic and other anmals, p. 1000 pounds p. mile,	1 0 0
	Furniture, &c.	
15	On household furniture, accompanied by, and actually belonging to, families emigrating north or west, p. 1000 pds. p. mile	0 5 0
16	On carts, wagons, sleighs, ploughs and mechanics' tools, necessary for the owners' individual use, when accompanied by the owners, emigrating north or west for the purpose of settlement, p. 1000 p. mile,	0 5 0
	Stone, Slate, &c.	
17	On slate and tile for roofing, and stone ware, p. 1000 pounds p. mile,	0 5 0
18	On all other stone entirely unwrought, p. 1000 pounds per mile,	0 2 5
19	On all other stone, p. 1000 pounds p. mile	0 5 0
	Lumber, Wood, &c.	
20	On timber, squared and round, p. 100 cub. feet p. mile,	1 0 0
21	On the same, if carried in rafts, p. 100 cub. feet p. mile	1 5 0
22	On boards, plank, scantling and sawed timber, reduced to inch measure, and all siding, lath, and other sawed stuff, less than one inch thick, (except such as is enumerated in regulations numbered 24 and 33) p. 1000 feet p. mile,	1 0 0
23	On the same, if transported in rafts, per 1000 feet p. mile,	2 0 0
24	On sawed lath of less than 5 feet in length, split lath and hoop poles, rowing oars and broom handles, p. 1000 p. mile	0 2 5
25	On staves and heading transported in boats p. 1000 pounds p. mile,	0 2 0
26	On the same, if transported in rafts, p. 1000 pounds p. mile,	0 5 0
27	On shingles, p. M. p. mile,	0 2 0
28	On the same, if conveyed in rafts, p. M. p. mile,	0 4 0
29	On split posts and rails for fencing, p. M. p. mile,	4 0 6
30	On the same, if conveyed in rafts, p. M. p. mile	8 0 0
31	On wood for fuel, (except such as may be used in the manufacture of salt, which shall be exempt from toll) and tan bark, p. cord p. mile,	1 0 0
32	On the same, if transported in rafts, per cord p. mile,	2 0 0
33	On sawed stuff for window blinds, not exceeding one-fourth of an inch in thickness, p. 1000 pounds per mile,	0 7 0
	Agricultural Productions.	
34	On cotton, p. 1000 pounds per mile,	0 7 0
35	On live cattle, sheep and hogs, p. 1000 lbs. per mile,	0 5 0
36	On horses, (each horse, when not weighed to be computed at 600 pounds) per 1000 pounds per mile,	0 7 0
37	On rags, p. 1000 pounds p mile,	0 5 0
38	On hemp and tobacco, going towards tide water, p. 1000 pounds p. mile,	0 5 0
39	On hemp going from tide water, p. 1000 pounds p. mile,	0 7 0
40	On wheat and all other agricultural productions of this state, not particularly specified, p. 1000 pounds p. mile,	0 5 0
	Articles not enumerated.	
41	On all articles not enumerated or excepted, passing *from* tide water, p. 1000 pounds p. mile,	1 2 0
42	On all articles not enumerated or excepted, passing *towards* tide water, p. 1000 pounds p. mile,	0 5 0
	Boats and Passengers.	
43	On boats used chiefly for the transportation of persons, and navigating the Erie canal between Schenectady and Utica, per mile,	11 0 0
44	On boats used chiefly for the transportation of persons and navigating the Erie canal west of Utica, per mile,	6 0 0
45	On boats used chiefly for the transportation of persons, and navigating the Champlain, or Champlain and Junction canal, p. mile,	6 0 0
46	On boats used chiefly for the transportation of persons, and navigating the Oswego canal, p. mile,	6 0 0
47	On boats used chiefly for the transportation of persons, and navigating the Cayuga and Seneca canal, and the lateral canal to East Caynga village, or either of them p. mile,	6 0 0
48	On boats used chiefly for the transportation of persons, and navigating the Junction canal, and not connected with regular lines of boats for the transportation of persons on the Erie or Champlain canals, p. mile,	50 0 0
49	On boats used chiefly for the transportation of property, p. mile,	2 0 0
50	On each person over 8 years of age, transported in a boat used chiefly for the transportation of persons, p. mile,	0 2 0
51	On each person over 12 years of age, transported in a boat used chiefly for the transportation of property, p. mile,	0 2 0

[The regulations of the Commissioners of the Canal Fund, authorizing boats used chiefly for the transportation of property, to commute for the toll on passengers, are the same as they were last year.]



Hunter's Screw-Press, improved. By Φ. M. [From the London Mechanics' Magazine.]

Sir,—I beg leave to submit to the consideration of your readers the following design for extending the range of an admirable invention, which must be familiar to most of them—I mean Hunter's Screw-Press. My principle is, instead of using Hunter's triple combination of nut and screw, to use only a nut and screw with a supplementary apparatus, which shall have the effect of making the screw, as it were, run away from the gripe of the nut, while the nut is made to follow with whatever degree of velocity may be required. Thus the screw rises with a velocity bearing a similar ratio to that of the moving power, as in Hunter's, while the range of the resultant power is continued through the whole length of the screw. In the accompanying figure, A′ B′ is the screw taken out of its place; a square projection of equal length with the screw is added to it. The head of this square part is seen in the figure, at A, rising out of C, in which it slides. C is a tube with a circular bore, wide enough to admit the screw freely, but closed by a square aperture, through which the square projection works. C is of one piece with *a*, *b*, and *c*, and works resting upon *d*, which is the real nut. *a*, *b*, *c*, and *d*, are furnished with teeth, and a winch is affixed by a contrivance which will allow of its engaging either *a*, *b*, *c*, or *d*, individually, or *c* and *d* together. *a* may be supposed to have 50 teeth, *b* 100, *c* 200, and *d* 200. *a*, *b*, and *c*, are intended merely to bring the screw down to its work, or to perform light tasks; and when the winch engages any one of them, *d* is clamped. When the screw is required to do its utmost, the winch is made to engage *c* and *d* together; then *c*, by means of its hold on the square projection, keeps the screw going before the nut, while the nut is overtaking it at the rate of one tooth for each revolution. The construction given in the figure is one of several, and not the best, but the one I found least troublesome to copy. I hope some of your correspondents will favor us with an opinion of the merits of the machine as thus altered, and also with a calculation of its powers, taking for data the winch at 15 inches radius, the moving power at 30 pounds, as, also, that one revolution of the winch passes one tooth, and that one revolution of the nut *d* passes one thread of the screw, the interval between any two threads being 2 inches.

An account of some experiments made at Woolwich with Jones' Patent Iron Wheels. By Wm. Baddeley. [From the London Mechanics' Magazine.]

Sir,—In your 245th number, you have given an excellent description of Messrs. Theodore Jones & Co.'s patent wrought iron suspension wheels, and in No. 347, an account of a very successful experiment made with them at the opening of the stone tram-way in the Commercial road. To these, I have now the pleasure of adding a description of some highly interesting and satisfactory experiments, that were made at the Royal Arsenal, Woolwich, in October last, under the superintendence of Major-General Hardwicke, and Lieutenant-Colonel Forrest, and in the presence of several officers of the Royal Artillery, to ascertain the fitness of the patent wheels for the general purposes of the Honorable East India Company's Ordnance Department in India.

In the first experiment, a pair of the patent wheels, five feet high, with six inch tire, were fitted to the carriage of an iron twenty-four pounder, weighing 50 cwt. 1 qr. 25 lbs.

Another pair of these wheels, five feet high, with three-inch tire, were fitted to the carriage of a brass twelve pounder, weighing 18 cwt. 5 lbs.

To each gun was attached its timber, furnished with the usual wooden wheels; the twenty-four pounder was drawn by six—the twelve pounder by four horses. The experiments commenced with briskly trotting, and sometimes sharply galloping the guns, over a very rough pavement, for upwards of an hour. The roughness and unevenness of the paving was so great, that the carriages bounded from stone to stone with great violence, sometimes springing a distance of several feet.

So great indeed was the violence with which the guns were galloped, that the rope lashings used to keep the guns in their places on the carriages were broken, and the twelve pounder carriage was jerked completely off its limber.

On a close examination of the patent iron wheels, after they had been subjected to this unusually severe trial, not the slightest appearance of injury was any where perceptible. The wooden wheels of the limbers, however, did not stand the shaking so well, although they had nothing but the weight of the empty limber boxes to carry; all the spokes were more or less started from their sockets; on measuring some of the openings, they were found to be three-sixteenths of an inch wide. Nor is this much to be wondered at, when it is considered that they were new wheels, which had been lying several years in store. This experiment fully demonstrated the extraordinary strength possessed by the patent wheels.

The 2nd experiment had for its object, to ascertain the nature of the draught of these wheels upon *soft* ground. The twenty-four pounder, with a weight altogether of from four to five tons, and a draught of six horses, was attempted to be drawn over a piece of very soft marshy ground. The wheels sunk in too deep, however, for that number to draw them out; the poor horses were struggling and sinking up to their knees in the marsh, when two more were added; but, during the time that was occupied in attaching them, the wheels had sunk in to such a depth that it required the exertions of several men in addition, to start the carriage. This experiment was neither so satisfactory nor so fair as could have been wished; *ten* horses should have been attached in the first instance, and then, the gun would have been drawn through the swamp without stopping.

By the regulations of his Majesty's service, eight horses are allowed for a twelve pounder, weighing about 18 cwt.; it ought not, therefore, to be expected that six horses should draw a load of 50 cwt. exclusive of the carriage, &c. through such a swamp as that in which this experiment was made.

In the next experiment, two twelve-pounders were drawn through the same marsh: one being mounted on Jones' patent wheels, the other on wooden wheels. Four horses (half the regular number) were attached to each; both passed through the marsh without stopping, but with great difficulty, the iron wheels appearing to have a slight advantage. The iron wheels, with six-inch tire cut into the soft ground, which adhered to the inside of the rim; but the wheels with three-inch tire did not collect the earth in the same manner.

The twelve and twenty-four pounders were then ranged in battery in front of the butt, and three rounds, with full service charges (one shot each,) were fired from both; no visible effect whatever was produced upon the wheels by the firing.

The final experiment consisted in ascertaining the comparative effects of a cannon ball upon the iron, and upon wooden wheels. For this purpose, one of the iron wheels was placed in front of the butt, and a twelve-pounder in the battery, at the distance of about two-and-thirty yards, brought to bear upon it. The first shot struck the wheel in an oblique direction, cut two of the spokes asunder, as clean as if it had been done with a sharp cutting instrument, bending them both to one side, *but without any splintering*. The second shot was directed to the face of the rim which it cut asunder, bending one end inwards; one spoke was also cut through—the nave grazed—one end of the nave box cracked—and a small piece cut off the opposite side of the rim. A wooden wheel was then placed in front of the butt, and submitted to the same rough treatment.

The first shot from the twelve pounder shattered two of the spokes, the splinters flying about very much. Shot the second struck the tire a little below the centre of the nave, which

it shivered to pieces, the splinters flying in every direction, some of the fragments being thrown to a considerable distance. This wheel was completely "done for," and was incapable of being repaired; nor could it be rendered available for conveying the gun off the ground.

Not so the iron wheel; for, on the command being given to march home, though sadly mutilated, the wheel conveyed the gun a considerable distance.

The battery experiments, as detailed above, were most ably assisted by the exertions of Captain Rawnsley, of the Royal Artillery, who superintended laying the guns, which was done with an accuracy and effect hardly to be exceeded; and which, on the present occasion, contributed materially to the success and satisfactory nature of the experiments.

In a report made by Major-General Hardwicke and Lieutenant-Colonel Forrest, to the Court of Directors of the Honorable East India Company, they express their opinions of the merits of the patent wheels in the following words:

"From the foregoing experiments, it is but justice to the patentees of the iron wheels to record the advantages under which they appear.

"First, They are stronger, and not so easily disabled in action, and when struck with a cannon ball *do not splinter*.

Secondly, When they sustain an injury to the extent of two or three spokes broken, the wheel might be continued in use till an opportunity occurred of repairing it, while a wooden wheel under similar circumstances would, for the time, be unserviceable.

"Thirdly, The iron wheels are not subject to those changes which influence of climate and changes of seasons work on wood wheels. We have seen in the course of these experiments, that new wheels that have lain a few store, wouldyears in require to be set up before sent on service. No length of time can render this necessary with the wrought-iron wheels."

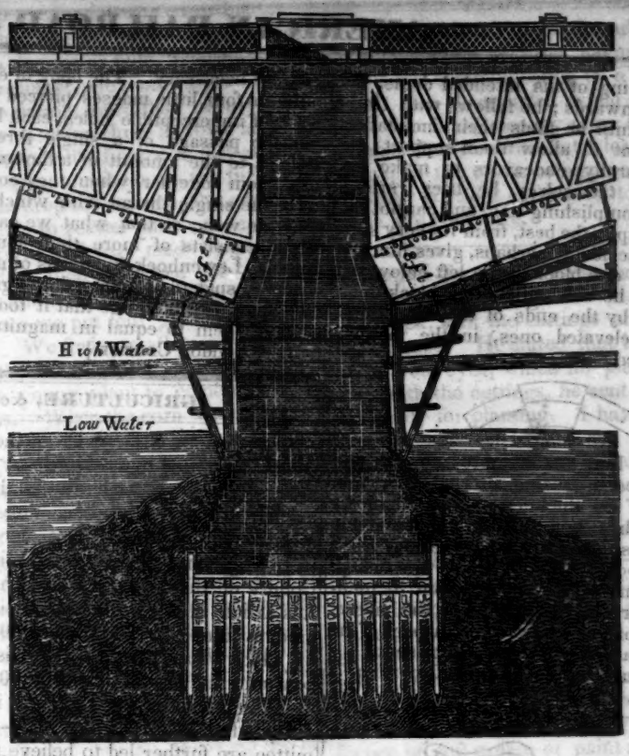
Southwark Iron Bridge—Construction of the Bearing Piers. From a descriptive account of the Principal Bridges erected over the River Thames: By Mr. Christ. Davy, Architect. [Continued from page 9.]

The bearing piers of a bridge involve the consideration of many and widely different circumstances, and by the construction of these vital adjuncts we are enabled in some measure to foretel the stability or insecurity of the architect's design.

A bearing pier (by which term it should be understood that those piers only are meant that are *in the river*) is generally a mass of solid masonry, built from the foundation to the level, or perhaps rather above the springing stone of the arch, and of sufficient weight to resist the attempts of the arch to overturn it, or to make it slide from its position. This force is called the thrust, push, or drift of the arch. Now, some means must be employed to determine, as near as possible, the force or weight requisite to resist the drift.

"We must," says Mr. Gwilt, "consider the thrust to be resisted by the friction, which the stones, composing the pier, experience, sliding on each other. From experiments, it has been found that in some kind of stone the friction of one block moving horizontally on another $= \frac{1}{3}$ of the weight of the moving block. If we adopt this determination, the weight of the pile ought to be equal to three times the horizontal drift to produce an equilibrium."

In addition to what Mr. Gwilt has here remarked, we must bear in mind that the piers must effectually withstand such extraneous shocks as are caused by the violence of the current, or from floating bodies. The salient angles of a pier, or cutwater, act as a preventive of the dangers likely to arise from these circumstances. In large navigable rivers, such as the Thames, the circular form sometimes given to the cutwaters is preferable, from the likelihood of their being struck by heavy craft,



and its allowing them to disengage with greater facility. This form, however, does not divide the waters so well. In the earlier structures, we find, from the variety of proportions exhibited in the piers, that the subject had claimed attention; but mathematical investigation had not yet been brought in aid of the practical part of Pontile Architecture. The practice of piling for the support of such a cumbrous mass of materials as the bearing piers of a bridge has been most generally observed, and as generally found to be adequate for the purpose. But of the use and abuse of piling, it will be necessary to speak. The main use of piling being for the purpose of passing from a loose to a denser soil, it is necessary that that soil should be of such density as to prevent the piles from sinking farther than they are driven in the first instance by the pile engine. From the enormous load they bear, this is most likely to be the case, should the pointed ends or feet of the piles not rest on ground of great solidity. Indeed, it has been observed in my former papers, that piling is only a mode of *searching for firm ground*, where it is either inconvenient or too expensive to barrow out or excavate the soil. There are, however, some instances (such as a bed of stiff tenacious clay) where it has been found, by experiment, that although the feet of the piles rest upon no other security than that of the clay, a pile 10 or 20 feet long, driven down, will, by the friction of its sides, have a hold of the ground nearly in proportion to its actual superficies.

It is evident, therefore, that piling, under two or three very different circumstances, may be made subservient to the effectual security of a ion.foundat The foundationf he bearing sot piers of Southwark Iron Bridge were laid in coffer-dams; but of a much larger and stronger description than those heretofore described. They were of an eliptical form, with a triple row of piles of whole timber. Each pier rests upon a massive timber platform supported by piles. Close to the outer edge of the offsets of the pier, a row of timber sheeting-piles were driven, a precaution that at once exhibits the master mind of the late John Rennie. This uniform belt of timber forms, as it were, a close stationary dam, preventing the soft substratum upon which the piles rest from being pressed outwards by the weight of the pier: a circumstance that generally takes place where piling is employed, and the work heavy. This circumstance is also well known to miners, and is thus described by Mr. Seward:—"If a level be driven one or two hundred yards under ground through the solid rock, there will be no danger of its not continuing entire for an indefinite length of time; but if the sides and roof only of the level be formed in the rock, and the bottom be cut through into a bed or substratum of clay, however strong and stubborn it may be, being pressed by the weight of the superincumbent rocks, it will imperceptibly swell and rise up in the level; and, unless it be continually pared down, or prevented by some means, the level will, in no great length of time, be entirely choked up." The masonry of the piers was carried up with horizontal and vertical bonds to the springing, where they radiated in wedge-like courses that received the line of direction, or force of the arch. (See the prefixed engraving.) The piers are 60 feet in height, from the bed of the river to the top of the parapet, and 24 feet in width.

[*From the London Mechanics' Magazine.*]

Mode of building a Dome without Centering.—I was glad to see the communication of "A Country Gentleman" in your Magazine, because such an inquiring spirit as your correspondent manifests, gives promise of a kindly feeling that may quicken and spread among the class to which he belongs, when it shall be found that those of that class who desire practical knowledge emerge from the folds of their seclusion, and seek it where it is most likely to be met with—among practical men. I was also gratified to prove the truth of my constant belief, that many gentlemen neglect inquiry at home, not from a lack of patriotic spirit, but from a notion that the required information can only be obtained abroad—being often struck by some apparent novelty, without being aware that it had grown stale in their native land.

I believe the method of building a dome without centering has been known to English mechanics for a time longer gone by than can be traced with certainty. In fact, the process is so simple, that, although it might not have struck a theorist so immediately, a practical man could hardly have proceeded far in his work without being led into it. We will suppose such a practical man commencing a dome without any knowledge of the proper method to be pursued. He lays the first course of ma-

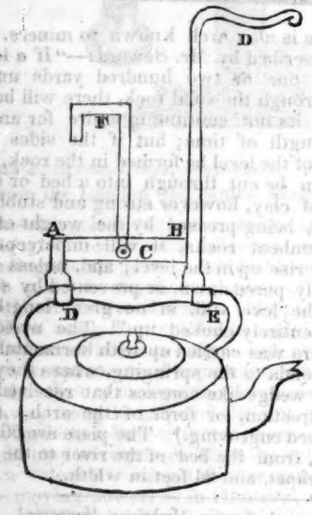
terial at the spring of his intended dome, inclining a little inwards; he follows with few more courses until he finds their inclination become too great to allow them support; he then, very naturally, endeavors to make his blocks *support themselves;* he tries various methods of accomplishing this, and cannot be long in hitting upon the best, from its very simplicity. Mere accident, perhaps, gives him the first idea of it; one block being left below the regular course, he will find another block upon this supported by the ends of the two adjoining and more elevated ones, in the manner here represented:

This will lead him to the more uniform and "solid" method of raising alternate courses, each block half its thickness higher than its neighbor: he thus will find he can build his dome up to its summit without centering.

For the purpose of showing this practically, I have made a model of a dome about 3½ inches diameter, formed of upwards of 150 pieces, which your correspondent may inspect if he will name a place to which it may be sent.

Yours, &c. SAMUEL DOWNING.

November 5, 1832.



Improved Kettle-Holder. By G. J. [From the London Mechanics' Magazine.]

Sir,—A B is a slender bar of iron, or strong piece of hooping. A D, B E are hooks of equal size fixed at A and B; but E B is prolonged upwards to D, where it is turned off square to form a handle. F is a hook, admitting of being turned freely round its centre-pin C. The hook F is hung on across the pot-hook, and the kettle on the hooks D E; there is also a spring, which is welded on A B, and entering the mouth of the hook E, prevents the kettle from slipping. The operation then is to draw the handle D towards you, when the water will be steadily discharged without giving you any chance of scalding or burning your fingers. The contrivance is so simple and cheap, that I have no doubt any blacksmith would make it for two or three shillings.

It will at once appear, Mr. Editor, that this is an useful kitchen utensil, and as such, I feel assured that its description will not be denied a place in the pages of the Mechanics' Magazine.

WONDERS OF PHILOSOPHY.—The polypus, like the fabled hydra, receives new life from the knife which is lifted to destroy it. The fly-spider lays an egg as large as itself. There are four thousand and forty-one muscles in a caterpillar. Hook discovered fourteen thousand mirrors in the eyes of a drone; and to effect the respiration of a carp, thirteen thousand three hundred arteries, vessels, veins, and bones, &c., are necessary. The body of every spider contains four little masses pierced with a multitude of imperceptible holes, each hole permitting the passage of a single thread; all the threads, to the amount of a thousand to each mass, join together, when they come out and make the single thread with which the spider spins its web; so that what we call a spider's thread consists of more than four thousand united. Lewenhoek, by means of microscopes, observed spiders no bigger than a grain of sand, who spun thread so fine that it took four thousand of them to equal in magnitude a single hair.—[London Courier.]

AGRICULTURE, &c.

CULTURE OF SILK.—From the Report recently submitted to the House by Mr. Wheelock, of Warwick, we learn that this important branch of industry is becoming an object of increased attention, and that successful efforts in raising it have been made in almost every County of the State. The consumption of this article in the United States is believed to amount to no less than $10,000,000 annually; of which Massachusetts alone is believed to consume not less than $300,000. One acre of full grown Mulberry trees, it is calculated, will produce $200 worth of silk—and the committee are further led to believe that a great portion of the labor of producing the article "requires only the efforts of females, children and aged persons, in and about their homes, and that the amount of such in this Commonwealth is very considerable, and that a field is here opened for a species of industry which at present is scarcely available at all, but if slightly encouraged might greatly add to the general mass of productive employment and wealth. Almost every farm in this Commonwealth is capable of being made to produce the leaves of the white mulberry tree, which by a natural process are converted into the rich and durable material of Silk. Every farmer might raise in his family, at least, enough of this article to pay his taxes, without materially interfering with the requisite labors of the farm, or diminishing the usual amount of other agricultural productions." If each farmer in this State would devote a little attention to the raising of the mulberry tree, and allow his daughters to raise the silk-worms, the profits to the State in a few years would amount in the aggregate to many hundred thousand dollars. Millions of dollars worth of raw silk are imported into France and England every year. The Committee recommend a bounty of one dollar on every pound of Silk reeled in this Commonwealth, that is capable of being manufactured into various silk fabrics; also, a bounty of one dollar a hundred on white mulberry trees, transplanted in a proper manner for the growth of the leaf. The art of reeling from the cocoons is rather difficult and discouraging at first; so that without some public aid few will be found to undertake it. To obviate this difficulty the proposed bounty is recommended.—[Boston Traveller.]

MR. PILLANS'S VINES. [From Loudon's Magazine.]—I see a short notice of our Horticultural Association, in which you refer to Mr. Pillans's mode of cultivating the vine, and express your readiness to communicate it to the public. The fact is, that Mr. Pillans takes an eye from a vine in the month of March; and from it produces, in the following April or May twelvemonth, a handsome plant for his master's table, bearing several bunches of fine ripe fruit. Some of your readers will not credit this; but I have seen it: that is to say, I went through Lord Ducie's forcing-houses in May last, and saw pots of vines with ripe fruit on them. I was informed the eyes had been taken from the parent vines only fourteen or fifteen months previously. I saw others in every intermediate stage of growth between them and the pots in which the eyes had just been inserted; and I understood Mr. Pillans to say that he hoped to produce grapes for the table, in succession, throughout the year, on this plan. I believe that this process has not been communicated to any one. I anticipate your opinion, that all who claim to be citizens in the republic of science are bound to contribute their individual discoveries for the general weal, in exchange for the advantages they reap from a similar devotion on the part of their brother citizens.

CULTIVATION OF CORN, &c. NEAR PARIS, TENNESSEE.—We are situated near the 36 deg. north latitude; where it crosses the Tennessee river, our land is, generally speaking, undulating—not so level, but bad cultivation permits the land to wash in many places. Our produce is corn, cotton, tobacco, potatoes, oats, wheat and rye, &c. &c. Forty bushels of corn per acre, I suppose, is the average crop; some think they make fifty or sixty—though I do not. The corn is planted from March to 15th June, at four to four and a half feet from hill to hill, and from two to four stalks left in the hill; the plough is used almost entirely; and but little hoeing done to it—never more than two given, and more often, none. There is no manure used for corn, or, indeed, any thing but our gardens. We usually strip the blades from the stalks as soon as the shuck on the corn begins to whiten, or as soon as it is hard enough; the stalks are tied up with the blades, and stacked around a pole twelve or eighteen feet high in single or double rows. When dry enough, the corn is gathered and hauled to the crib, the shucks taken off and put in the crib;—the shucks, by most, are put in a pen to feed the stock—by others, they are permitted to rot on ground.

The wheat is sown among the corn or cotton, from the 15th October to the 15th November. The early wheat does best with us; it is subject to rust, fly, &c.; fifteen to thirty bushels is a common crop.

Rye and oats grow as fine here as in any country I ever saw. Rye sometimes grows as high as eight feet, oats as high as six; rye is very common at six to seven, oats at five; they are remarkably heavy, though I cannot say how many bushels, as we usually cut them up without threshing them out, and feed them to stock.

Our horses and cattle are miserably abused; many have a rail-pen for their horse to stand in, and none have shelters for their cattle. The best stables are made of logpens, without any thing in the crevices to exclude the cold and rain. We have many diseases, consequently, among us; the most common among the horses are the big head, the big jaw and shoulders, swinney, spavin, blind-staggers, and glanders, &c.—[Southern Agriculturist.]

SEED-DOWN OF TYPHA FOR STUFFING BEDDING FOR THE POOR. [From Loudon's Magazine.]—When these seeds are ripe, they fall in great wool flocks from the stalk; and as Typha grows wild in many places, they

could be procured in abundance. When beaten for some time they separate, and open all their balloons, so as to become as soft and as elastic as feathers; and from their hygrometic expansibility and contractiveness, I apprehend they would never get into clots or lumps if sewed up into a bag or bedtick. I should hope that this hint will be not wholly useless to your *Encyclopædia of Cottage Architecture.*

Cultivation of Corn.—Our readers will find the following communication to repay perusal. It is such a detail of effects as we should be happy to receive frequently from farmers. It was communicated to the New-England Farmer.

Princeton, N. J., Jan. 28, 1833.

Mr. Editor,—The idea has often occurred to me, while perusing your valuable paper, that farmers might be mutually benefited by making public through its columns their mode of cultivating the various crops which they grow upon their farms. Under that impression I have taken up my pen with the intention of devoting an evening in giving you my views and practice in cultivating a crop of Indian corn. Our soil, principally a sandy loam, in some places inclining a little to gravel with a clay subsoil, is well adapted to the growth of that plant, and we consider it the most profitable crop we cultivate. In the first place we prefer a stiff herds-grass sward, (by you called red-top, or herd-grass,) and clover; and, experience has taught us that a field which has been pastured for two or three years is much more certain of producing a good crop of corn than one of the same quality which has been kept up and mowed for hay the same length of time; that it is so with us, does not admit of a doubt. We suppose it is owing in part to there being fewer insects in the pasture-land,—the droppings of the cattle adding more recent animal manure to the soil, and some suppose that the soil having been rendered more compact by the cattle trampling on it for two or three successive years, facilitates the growth of the young plant by enabling it to push forth its roots more readily, as a certain degree of compactness in the soil appears to be necessary to enable a young plant to send forth its roots with facility. After trying various modes of preparing my land and tending the crop, I have for the last two or three years adopted the following, which appears to me to be the best I have yet practised.

I plough my land in the spring as early as convenient, regulating the depth by the depth of the soil, after ploughing put on a roller drawn by one yoke of oxen and roll lengthwise the furrow, after rolling, harrow twice along the furrow, with a heavy harrow six feet wide with iron teeth well sharpened, drawn by two able horses. Then take a small plough, drawn either by one or two horses, and form the field in ridges, by throwing two furrows together four and a half feet distant from each other across the original furrows, being careful the plough does not reach the sward to turn it up: this cannot be *well done* without the ground has been previously rolled. I then furrow crosswise the ridges last formed, with a sled made for the purpose of two inch plank with three runners, each runner having a hole an inch in diameter bored in the bottom, about equi-distant from either end, and a peg of good hard wood driven therein to extend about one and one-half inches below the runner, the part extending below the runner to be twice the diameter of that inserted in it. With this machine, with a tongue or pole firmly attached to the middle runner, one man with two horses can with ease furrow more than twenty acres per day;—as he makes three furrows at once, he must, consequently, furrow as fast as three men with ploughs, and it leaves the furrow in a fine state to drop the corn on, the grain not being so liable to scatter and roll as when dropped on the hard furrow made by a plough. The ground is then prepared for planting squares four and a half feet by four feet, and at this distance we put four grains or kernels in each hill. We find a small quantity of ashes on or in the hill of considerable advantage; it causes the young plant to come up strong and vigorous. When the corn has been up a few days, we put a small quantity of plaster to each hill, and commence harrowing with a small harrow three and a half feet wide, drawn by one horse, twice through each row one way, which prepares the ground handsomely for ploughing, and by which a careful hand can loosen the soil close to each hill. In a very few days after the harrowing is completed we commence ploughing, by throwing a furrow from each row, ploughing as close to the corn as can be done without covering it up, leaving the middle or spaces between the furrows in that direction untouched; we then commence ploughing crosswise, throwing the furrow to the corn unless it should be quite grassy, when we throw it from the corn as before, and in either case plough the middle or spaces left between the rows in the direction last ploughed out, immediately, throwing half to each row. After laying in this state some days, we put on the small harrows again and harrow twice through each row, or rather space between the rows one way—in this state it may be left for some days untouched, unless there should be a heavy fall of rain, in which case experience has taught me that it is of decided advantage to the corn to stir the ground again with the harrow, that a free communication may be kept up between the soil and the atmosphere. As it is all important to the health of an individual that the pores of the skin should be kept open, so it appears to me with the soil, that the slight crust formed upon its surface after a rain should be again broken with the harrow or some other implement.

When the ears are beginning to set I commence ploughing for the last time, throwing the furrows to the corn and leaving the spaces between the rows well ploughed out; by this system you will perceive the hoe is in a great measure dispensed with, and I can assure you I can keep my field as clean without it as you would wish to keep your garden, unless the spring should be very wet and warm, when we occasionally find it necessary to use the hoe. One man and a horse will plough around (as we call it) five acres of corn in a day, or complete, by ploughing the middle out, two and a half acres. If there should be a considerable fall of rain or heavy showers soon after the last ploughing, I almost invariably put on my small harrows again, unless the crop should be too forward, but at the last harrowing we raise the corner teeth of the harrow (which is of a triangular form) so that near the hills they merely break the surface. When the corn is nearly ripe, and, if possible, before it is killed by the frost, we cut it up by the ground and set it in stacks to be husked at leisure; the stalks are hauled and stacked at the barn-yard to be food through the winter months.

I have said nothing on the subject of applying manure to the crop, having already extended this communication to a much greater length than I intended when I commenced, and I fear it will occupy more space in your columns than it merits, but I leave it with you to publish the whole or any part thereof that you may consider calculated to promote the cause of agriculture. A. C.

Raising Grapes by Eyes or Buds. [From Loudon's Magazine.]—Sir: Langford, some time back, sent me cuttings of his incomparable grape. He stated that he prefers raising it from eyes, which he plants like bulbs; and, with the cuttings, he sent me a few eyes cut ready for planting. I have tried both the cuttings and the eyes; and the eyes have made fine shoots and are in leaf while the cuttings are not. I am, Sir, yours, &c.

M. Saul.

Clay Paint for Trees.—A correspondent of the Caledonian Horticultural Society, (Scotland,) recommends *clay paint* for the destruction of insects, and the mildew on fruit trees. The instructions are, that you take a quantity of the most tenacious brown clay that can be obtained; diffuse among it as much soft water as will bring it to the consistence of soft cream or paint; pass it through a fine sieve, so that it may be made perfectly smooth and unctious, and freed from any gritty particles. With a painter's brush dipped in the clay paint, go carefully over the whole tree, not excepting the young shoots. This layer, when it becomes dry, forms a hard crust, which enveloping the insects closely, completely destroys them without doing the smallest injury either to the bark or buds.

Influence of Cottage Gardens in promoting Industry.—It is a fact, the knowledge of which will not be unacceptable to those of our readers who take an interest in plans for bettering the condition of the poor, that, in the village of Blackwood, ripe peaches grown in a cottager's garden have this season been sold at the moderate price of 8*d.* per dozen. I need hardly say that the land producing this fruit was the grower's own, that is, held under a lease for lives. In the year 1817 this spot was a wilderness. The cottager was a rough or out-of-door carpenter, employed to put up posts and rails on a farm, and to do the rough work about a colliery. Before he built his house he lived in a hovel, with his wife and family, without even a garden. Since then, by dint of his industry and good conduct, he has been enabled to build a second and a third house, all of stone, and tiled, and to bring three gardens into cultivation, besides rearing his children decently, and teaching his sons to tread in his steps. He is now an old man, nearly blind, and has been unable to follow his work for more than a year past; but he has a comfortable house to live in; receives the rent of two other houses; has two industrious sons and a daughter, unmarried, to cultivate his garden, which is larger than usual; with its produce in fruit and vegetables of various sorts, honey from his hives, and a pig in the sty to kill at Christmas, to console him under the loss of sight and the infirmities of old age, with the cheering consciousness, that he need be indebted to no parish for relief, and is in no danger of leaving his children beggars.—[Loudon's Magazine.]

NEW-YORK AMERICAN.

MARCH 16, 18, 19, 20, 21, 22—1833.

LITERARY NOTICES.

THE AMERICAN QUARTERLY REVIEW. No. XXV. Philadelphia: *Carey, Lea, & Blanchard.*—Nine articles compose this number—all good and some excellent. Of the latter class are the numbers IV, presenting a view of Ohio; VII, on Hampden and his Times, and IX, on Nullification. Some of the others are lighter and more generally readable papers, however. That on the Life of Commodore Barney compresses into an interesting narrative the varied incidents of the very adventurous life of that gallant seaman. Article III does the same with regard to the life and writings, and too early death of *Schiller;* and Article V leaves pleasant, invorable, and we believe true and just impressions on the mind, of the character and disposition of both *Hortense Beauharnois*, and her husband Louis Napoleon, Ex-King of Holland. Both possessed most estimable qualities; and as to goodness of heart and fidelity to early attachments, both were uncorrupted by power,—yet they were unhappy together, and finally separated.

From the paper on Ohio, we transcribe a short, but as it strikes us a very valubale extract, which presents briefly and familiarly the substance of that famous Ordinance for the government of the Northwestern Territory, which "one Nathan Dane"—as Mr. Hayne, so unhappily for his own fame, once ventured to characterize this most sagacious and wise lawgiver—reported to the Old Congress in the year 1787.

The vast importance of this ordinance, and the probability that many of our readers are not familar with it, induce us to attempt an abstract of its contents; although its comprehensive brevity renders it impossible to convey a complete idea of it in a shorter compass than its own language fills.

After regulating in the plainest manner the descent and transfer of property, until laws should be adopted for that purpose, it provided a *temporary* government, consisting of a governor, secretary, and three judges, to be appointed by Congress. The governor and judges were to *adopt* such laws from the original states as Congress should approve, until a general assembly should be organized in the territory, which might be done as soon as there should be five thousand inhabitants. This assembly was to consist of the governor, a legislative council of five to be appointed by Congress, and a house of representatives to be chosen by the people. This body, by joint ballot, might elect a delegate to Congress, who should have the privilege of debating but not of voting. So far, the ordinance has served as a model for all subsequent territorial governments. But its most admirable features are yet to be mentioned. Having thus provided for the immediate present, its author directed his sagacity into the boundless future, and framed six memorable *articles of compact* between the original States and the people and States within the territory, which were to remain for ever unalterable, unless by common consent. The object of these articles was "to fix and establish the fundamental principles of civil and religious liberty as the basis of all laws, constitutions, and governments, which for ever hereafter shall be formed in the said territory."

1. No person was ever to be molested on account of his mode of worship or religious sentiments.

2. The inhabitants were ever to have the benefits of the writ of *habeas corpus*, of trial by jury, of proportionate representation, of bail except for capital offences, of moderate fines, of exemption from cruel or unusual punishments, and of being compensated for their property or services, when the public exigencies should require them. In addition to which, no law was ever to be passed which should interfere with private contracts previously entered into in good faith.

3. Schools and the means of education were for ever to be encouraged and the utmost good faith observed towards the Indians.

4. The territory and the states to be formed therein, were to bear their proportion of the public burthens; never to interfere with the primary disposal of the soil by Congress; never to impose a tax on the lands owned by the United States; and in no case were non-resident proprietors to be taxed higher than residents. The navigable waters within the territory, and the carrying places between them, were to be common highways, and for ever free to all the citizens of the Union.

5. Not less than three nor more than five states were to be formed within the territory; but so soon as there should be sixty thousand inhabitants within the limits designated, or sooner if deemed expedient, a State might be formed, which should be admitted into the Union on an equal footing with the other States, provided its constitution should be conformable to the principles of these articles.

6. There was to be neither slavery nor involuntary servitude within the territory, except for the punishment of crimes. But if a slave should escape from one of the original States, he might be reclaimed and carried back.

Such is the outline of this inimitable specimen of legislation. It was framed a few months previous to the Federal Constitution. So far as we know, it is the first written form of government, in which the three great principles of entire religious freedom, an obligation to encourage schools, and an absolute prohibition of slavery, were ever incorporated together.

From this Northwestern Territory have been already framed, subject to the wise provisions of this Ordinance, the free and flourishing States of Ohio, Illinois, and Indiana,—and Missouri, too, which, but for the moral cowardice and corruption of Northern recreants, would be as free and flourishing as the other three.

From the same paper we copy the account of a conference held with the Ohio Indians by the Pioneer of that State, *John Cleves Symmes*—the father of the inventor of the hollow world—chiefly for the excellence of the criticism made by an Indian Chief, of our national emblem, the spread eagle.

"The chief, the others sitting around, wished to know how far I was supported by the United States, and whether the thirteen fires had sent me hither. I answered them in the affirmative, and spread before them the thirteen stripes, which I had in a flag then in my camp. I pointed to the troops in their uniform, then on parade, and informed the chief that those were the warriors which the thirteen fires kept in constant pay, to avenge their quarrels; and that the United States were desirous of peace with them, yet they were able to chastise any aggressor who should dare to offend them. And to demonstrate this, I showed them the seal of my commission (as judge), on which the American arms were impressed; observing, that while the eagle held the branch of a tree, as an emblem of peace, in one claw, she had strong and sharp arrows in the other, which denoted her power to punish her enemies. The chief, who observed the device on the seal with great attention, replied by the interpreter, 'that he could not perceive any intimations of peace from the attitude the eagle was in, having her wings spread, as in flight, when folding of the wings denoted rest and peace; that he could not understand how the branch of a tree could be considered as a pacific emblem, because rods designed for correction were always taken from the boughs of trees; that to him, the eagle appeared, from her bearing a large whip in one claw, and such a number of arrows in the other, and in full career of flight, to be wholly bent on war and mischief.'"

We conclude with an extract from the article on Schiller, describing the last days of that finely touched spirit.

"The spring of 1805, which Schiller had anticipated with no ordinary hopes of enjoyment and activity, came on in its course, cold, bleak, and stormy; and along with it his sickness returned. The help of physicians was vain; the unwearied services of trembling affection were vain; his disorder kept increasing; on the ninth of May it reached a crisis.—Early in the morning of that day he grew insensible, and by degrees delirious. Among his expressions the word *Leuchtenberg* was frequently noticed; a word of no import, indicating, as some thought, the writer of that name, whose works he had been lately reading; according to others, the castle of *Leuchtenberg*, which, a few days before his sickness, he had been proposing to visit. The poet and the sage was soon to lie low; but his friends were spared the further pain of seeing him depart in madness. The fiery canopy of physical suffering, which had bewildered and blinded his thinking faculties, was drawn aside; and the spirit of Schiller looked forth in its usual serenity, once again before it passed away for ever. After noon his delirium abated; about four o'clock he fell into a soft sleep, from which he ere long awoke in the full possession of his senses. Restored to consciousness in that hour when the soul is cut off from human help, and man must front the king of terrors on his own strength, Schiller did not faint or fail in this his last and sharpest trial. Feeling that his end was come, he addressed himself to meet it as became him; not with affected carelessness or superstitious fear, but with the quiet, unpretending manliness which had marked the tenor of his life.—Of his friends and family he took a touching but tranquil farewell; he ordered that his funeral should be private, without pomp or parade. Some one inquiring how he felt, he said: '*calmer and calmer;*' simple but memorable words, expressive of the mild heroism of the man. About six he sank into a deep sleep; once for a moment he looked up with a lively air, and said: '*many things are growing plain and clear to me!*' Again he closed his eyes, and his sleep deepened and deepened, till it changed into the sleep from which there is no awakening."

If death be indeed the most fiery trial of humanity, if, more than any other test, it decides the character, what pleasing evidences of moral heroism and unshaken reliance, shine from the dying couch of Schiller! The past revealed no spectres to torture or alarm him. His life had been spent with comparatively no taint of evil—it had been one splendid dream of the great, and the good, and the beautiful, which forbade to passion its sway. Indolence, that prolific mother of almost all the vices, had in him never nourished one of her brood—no misdirection or perversion of powers claimed from him penance. In an elevation above the common wants and wishes which render our race the foes of each other, nursing the high conceptions and feelings,

"Which make man glorious and divine,"

his aim had been mental perfection and virtue. With such a retrospect, no wonder that, in the awful state of suspension between two worlds, he grew *calmer and calmer*, and saw nothing to fear amid the disclosing mysteries of eternity. Great truths *grew plain and clear to him*, and in the deep conviction of their sublime reality, he gently passed away.

The scene of his burial was peculiar. It took place in the dead of the night, between the hours of twelve and one. "The over-clouded heaven," says Doering, "threatened rain. But as the bier was set down beside the grave, the clouds suddenly split asunder, and the moon, coming forth in peaceful clearness, threw her first rays on the coffin of the departed. They lowered him into the grave, and the moon again retired behind her clouds. A fierce tempest of wind began to howl, as if it were reminding the bystanders of their great, irreparable loss," a loss which was indeed great, and for which all Germany, surprised at the event, mourned with fervent sorrow. His age and personal appearance at this period, are described in the following paragraph:

"Schiller's age was forty-five years and a few months when he died. Sickness had long wasted his form, which at no time could boast of faultless symmetry. He was tall and strongly boned; but unmuscular and lean; his body, it might be perceived, was wasting under the energy of a spirit too keen for it. His face was pale, the cheeks and temples rather hollow, the chin somewhat deep, and slightly projecting, the nose irregularly aquiline, his hair inclined to auburn. Withal his countenance was attractive, and had a certain manly beauty. The lips were curved together in a line, expressing delicate and honest sensibility; a silent enthusiasm, impetuosity not unchecked by melancholy, gleamed in his softly kindled eye and pale cheeks, and the brow was high and thoughtful. To judge from his portraits, Schiller's face expressed well the features of his mind; it is mildness tempering strength; fiery ardor shining through the clouds of suffering and disappointment, deep, but patiently endured. Pale was its proper tint; the cheeks and temples were best hollow. There are few faces that affect us more than Schiller's; it is at once meek, tender, unpretending, and heroic."

SIR WALTER SCOTT'S WORKS. *Conner & Cooke*, New York. Part III, of Vol. 2, is already issued, containing the Antiquary. The price, as before mentioned, is 37 1-2 cents. We have only to add that it is as well got up as to mechanical execution as the first two parts.

BOSWELL'S LIFE OF JOHNSON, by J. W. CROKER.—New York: *G. Dearborn.* 2 vols. royal 8vo.—The book thus beautifully republished here is one so fa-

miliar to the reading world, at least in its early editions, as to supersede the necessity of any critique upon it now. The additions and notes explanatory and illustrative, by the late Secretary of the Admiralty, were, on the first appearance of his edition in England, cruelly ridiculed and laughed at by the Edinburgh Review, and as extravagantly praised and valued by the Quarterly. Perhaps, as in most other cases, the truth lies midway; and that Mr. Croker deserves such praise as the having brought together all the anecdotes of Johnson scattered through Mrs. Piozzi's and Sir J. Hawkins' publications is entitled to, and for having given point and perpetuity to some of the biting sarcasms and amusing incidents of this most amusing of books, by naming the individuals to whom they related.

Of this American edition, we can speak in terms of entire commendation. It is clearly and distinctly printed, upon good paper, and with well executed engravings; and comprises in two volumes what occupies four or five in the London Edition.

THE DOUAY BIBLE. New York: *John Doyle.*—The version of the Bible in use among Protestants was, as our readers probably know, rendered from the original after the Reformation, and differs, in many particulars from that still used by Catholics, which is the one now republished here. It bears, as a pledge of its accuracy, the *imprimatur* of the Catholic Bishop of this Diocess. It has many notes and illustrations, and presents a fair opportunity to critical readers, of comparing the two versions.

THE ELEMENTS OF THE DIFFERENTIAL CALCULUS by J. R. YOUNG. *G. F. Hopkins & Son*, N. York.—This American edition of a standard scientific work has been carefully revised, and many errors in the London edition have been corrected. Its reputation, as affording a full elementary course of the subject it treats, will secure its adoption in Colleges and other higher seminaries of instruction. It is exceedingly well printed.

THE AUTOBIOGRAPHY OF ADAM CLARKE. L. L. D, New York: *D. Appleton.*—Written in the third person, and extending only through the period of his life previous to that in which, to use the author's own language, "I began to acquire fame, and great and learned men saw fit to dignify with their acquaintance, and to bestow honor aud distinctions on a Methodist Preacher," this autobiography will be enthusiastically sought by those of the same persuasion as the very learned, pious, and exemplary writer, and may be read with advantage by all. Its humility of spirit may be judged of by the fact above referred to, that after he became famous, and widely known, and honored, Dr. Clarke would not trust himself to speak of himself.

LIBRARY OF ROMANCE, edited by Leitch Ritchie; vol. 1. *The Ghost Hunter and his Family*, by "the O'Hara Family."—There is a peculiar interest about this tale, from association with the circumstances under which it was written—circumstances which are already familiar to our readers, from the affecting appeal of Mr. Banim to the public, which we republished a week or two since from a London paper. It is a melancholy criticism to make upon the story, to say that it exhibits traces of the feeble health of a writer, who at thirty has exhausted his constitution by the composition of twenty volumes, which, though widely disseminated, have still left their author as impoverished in pocket as in health. Still it must be admitted, that in spite of the great inequality discernable in different parts of the work, it is a tale of much interest, and of excellent moral tendency. The characters, standing by themselves, are exceedingly well drawn, and their grouping is happy. The shrewdness, sense, and firmness of character, with the quiet but strong affections of Rose Brady, are admirably contrasted with the willowy nature of her fond and erring cousin, and the rash and fantastic disposition of her fervid and high spirited brother. Randal Brady, too, the father, is very well drawn; as is also the old beldame, whose mischievous disposition is so important an agent in the plot; and the minor dramatis personæ, indeed all the material of the story is good, and in some parts exceedingly well worked up; but the fact of the author's having been forbid by his physicians to employ himself more about the MS. after it was first written out, has left many blemishes; among which, not the least is a want of condensation in the story, which we fear will never prove such a favorite as others compused by the same writer under happier auspices. *

THE SOLDIER'S BRIDE, AND OTHER TALES; by Jas. Hall, author of Legends of the West: Philadelphia, Key & Biddle.—This volume, though inferior in interest to Mr. Hall's Legends of the West, one of the cleverest and most characteristic collection of sketches that has issued from the American press, is still entertaining, and contains more than one striking story. "Pete Featherton," as a border sketch is only surpassed in fidelity to character by the popular story of "Mike Fink, or the last of the Boatmen." Mr. Hall has, however, already so fairly tried his powers in this light and unpretending style of composition, that the public have a right to look for something from his pen of a more ambitious and permanent character. Like Mr, Flint, he is one of the few literary men of the country, who, from living amid scenes and characters more peculiarly American than any offered in the older parts of the Union, have materials at their command which are invaluable in building up a national literature. They live in a new and picturesque country, where nature exhibits herself in her most striking forms, and where man, released from much of the prescriptive bondage of more thoroughly organized society, displays bold traits of his character upon even ordinary occasions. They have, as it were, the *creaming* of fresh and abounding sources of interest, and they should make the best of their advantages while time allows them. Before a few years are over, railroads and canals will have seamed the face of nature throughout the country; and the concourse of tourists and scribbling travellers, who have made Germany and Italy as familiar ground most as the regions of Cocaigne, will be let loose here: when Kentucky and Missouri, and the whole region of "out West," with its rivers like oceans and its plains like empires, will be served up in annuals, and magazines, and novels, with as much eagerness as an ox is roasted whole by a party of famished soldiers, who have been for months subsisting upon snail ragouts, and soups made from dry bones. Writers like Flint and Hall ought, therefore, to seize with earnestness upon the unhandled treasures before them They should be upon the trail of their quarry while the newness of the morning air allows the scent to lie, and catch the perfume of the wild flower before the dew is exhaled from its cup. *

THE LIVES AND EXPLOITS OF BANDITTI AND ROBBERS IN ALL PARTS OF THE WORLD: By C. Mac Farlane, Esq., Author of 'Constantinople in 1829,' &c. Harpers.—There are few subjects, as Mr. Mac Farlane justly remarks, that interest us more generally than the adventures of robbers and banditti; and, from the adventurous days of Jack the Giant-Killer, to those of the chivalric Charles De Moor, infancy and age have alike delighted in dwelling upon the wild exploits of brigands and freebooters. The child, like one who hears, by the fireside, the winds whistle without, listens securely on his nurse's knee to the frightful narrative, with all the eagerness of infantile curiosity: The youth, who associates the idea of generous daring with the bearing arms under almost any circumstances, is captivated by the martial air and partisan fighting, the military apparel, and lonely retreats, the sodden charge, the stealthy ambuscade and fierce onslaught of the dashing marauder; while age, which loves to study human nature in all its phases, contemplates the wretched life of the Brigand, with the interest of the philosopher and the philanthropist. It would be difficult, therefore, to choose a subject of more general interest and entertainment, than that of the volumes before us. And while one is surprized that in this book-making age, a compilation, if not an original work of the kind has not been before attempted, we are gratified, in perusing this, to find that the task has fallen into such good hands, and is so well executed. We shall have occasion to refer again to this interesting collection. *

COUNT CHARLES DE LAMETH.—The gallant Lafayette has recently expressed the wish that his own death might *precede* the dissolution of the Union! In the recollection of the sufferings he has endured in the cause of liberty, he must groan *in the anguish of his soul* over the prospect which now awaits it, in the desolations of civil war, and the disruption of long cherished ties.

One of his companions in arms has been more fortunate. Count Charles De Lameth, after a long and distinguished career, has recently died in France; and his name and that of his brother who died three years since, cannot be permitted to pass from the memory of those who honor the services of the VIRTUOUS and BRAVE.

The subject of this sketch was a native of Picardy, was born in 1756, and in the Frigate La Gloire followed his brother Alexandre to America, in company with the Duke De Lauzun and and many other distinguished officers. A celebrated naval engagement took place on the passage, between this vessel, assisted by another French frigate, L'Aigle, and an English frigate, the Hector, in which the latter was obliged to strike her colors. Their landing in the Delaware was attended with many romantic incidents and much danger. An English fleet, in which the present King of England then was, chased the two French vessels and finally destroyed one, if not both of them, in our waters. So hot was the pursuit, that the French officers were compelled to escape in small boats, at midnight, and the military chest was for a while *deposited in the river* until the enemy disappeared, when it was taken up and bro't in safety to Philadelphia through the indefatigable exertions of the Chevaliers Viomenil and De Laval.

The various anecdotes connected with the services and gallant bearings of these French officers during the remainder of our revolutionary war, still offer an inviting theme to the pen of our future poets, biographers and novelists.

On the return of Count Charles to his own country, he was made Lt. Col. of the Orleans Dragoons, then Colonel of the King's Cuirassiers, and gentleman in waiting to the Count D'Artois, since King of France. About this time, through the influence of his mother, who was a sister of Marshal Broglio, he married a beautiful lady, possessing immense wealth, by the name of Picot.

In 1789, he was chosen Deputy from Artois to the States General, and until the flight of Louis XVI, he was a warm and energetic opponent of the Court and the aristocracy. He was with the army of Lafayette until that General abandoned his command, From Varennes he escaped to Havre, where he suffered a temporary arrest, but on regaining his liberty, he retired to Hamburgh, living in great obscurity. He afterwards selected Basle in Switzerland as the place of his residence. In 1800, he returned to France with his brother and other emigrants, whose names were erased from the list of exiles. He re-entered the army, and was appointed aid to Murat in 1817. He distinguished himself at Heilsberg by his uncommon bravery, and in short, from that period until 1813, he served with great honor in the armies of France, both against Austria and Spain, obtaining decorations and rank as the trophies of his valor. In 1814 he was appointed a Lieutenant General, and recently he has been a member of the chamber of Deputies, from the department of the Seine and Oise.

The career of this man, which has conferred honor upon his family, and glory upon France, seems to have been long since forgotten by that people across the Atlantic, whose interests he in early life adopted as his own. In the impending crisis of their political existence, they appear no longer to remember the blood and treasure which their freedom cost, or the value of the services of Lafayette and Da Lameth! Yet before patriotism and love of liberty are forever

engulphed in the contentions of political demagogues, who are leading our countrymen to the verge of irretrievable ruin, one heart at least shall express its grateful devotion, and one pen inscribe its eulogy to the memory of Count Charles De Lameth.

Eternal honor to the Hero and Patriot who fleshed his maiden sword in the cause of American indedence.—[Albany Daily Adv.]

FOREIGN INTELLIGENCE.

Late from Europe.—Three packets arrived Saturday afternoon and Sunday;—the *Silas Richards*, of 24th January, from Liverpool, the *France*, of 21st do. from Havre, and the *Caledonia*, of 4th ult. from Liverpool. Our tables are consequently covered with newspapers.

The most important item of intelligence, however, is the complete defeat and rout of the Turkish army in Asia, by the Egyptians, and the consequent movements among the chief European powers. Russia was hastening to sustain her late enemies the Turks—but is said to require as the price thereof, the entire cession of the principalities of Wallachia and Moldavia, which now it does in fact govern and enjoy the revenues of. The other powers, and particularly France and England, who appear to act completely in concert on this as on the Belgian question, object to this protecting mania of Russia, and will probably interfere, as well by fleets in the Mediterranean, as by remonstrance.

The Duchess of Berri was ill at Blaye, and might, perhaps, in consequence be liberated.

The Belgian question seems *in statu quo;* and the same may be said of affairs in Spain and Portugal.

The British Parliament was opened on 29th January. The House of Commons was organized by choosing Mr. Manners Sutton as Speaker. The Lord Chancellor, in opening the session by Commission, notified the two Houses, that the King would attend in person, and deliver his speech, as soon as the Parliament was prepared for business.

The choice of Mr. *Manners Sutton*, an anti-Reformer, as Speaker, seems to have offended the press and the public generally. Bell's Messenger, an able and impartial paper, views this first "public act" of the Reformed House, "with disgust."

The abolition of slavery in the Colonies seems determined on. A deputation of the West India interest waited on Lord Goderich to ascertain the intentions of Government. He admitted that the subject would be taken up. but declined going into any particulars. The Times says there is to be *no* compensation to slave-owners, and thus reasons on that head.

We would strongly recommend to our correspondent to dismiss at once from his mind the expectation which seems so strongly to possess it, that compensation will be awarded to the slave-owners. The slave-owners have certainly, in strict law, a property in their slaves. The owners of Gatton, Dunwich, and Old Sarum, had also a legal property in their boroughs but property based on the violation of the claims of humanity is no more sacred than that founded on the violation of constitutional principles. Public opinion blasted the claims of the boroughmongers before the annihilating sweep of schedule A, and no man dared ask an indemnity for the money-value of a flagrant instrument of wrong. The public voice nas denounced with equal emphasis and indignation the disgusting system of slavery; and in our opinion decidedly is, that neither the Parliament nor the people of England will listen to any arrangement which admits the claims of the dealers in human flesh, though a *bonafide* price may have been given for that flesh."

The following plan, to supersede slave-labor, in part, is, according to Bell's Messenger, to be tried.

Alteration in the Sugar Trade.—A plan to alter the sugar trade, to change the colonial system entirely, and to reduce the demand for slave labor, has been submitted to his Majesty's Ministers, and to the leading houses in the West India trade; the question is entertained by the Ministry, and the planters are represented as being favourable to the new system.

It is proposed that only one process should take place in the West Indies, namely, the boiling of the sugar cane, the proceeds in a fluid state to be shipped to England, and to be manufactured here; the process of making muscovades, and of refined sugar, and the distillation of rum, all to be performed in England.—The person who has submitted this plan to the Ministers has taken out a patent for making refined sugar from the saccharine matter in the fluid state by one process. The Ministers, who have taken this plan into consideration, have alluded to difficulties which would arise as to collecting the revenue, about four millions annually; but as all the produce would be sent to Europe, as at present, the fixing the duty is merely a matter of detail, not of insurmountable difficulty or objection to the other part of the plan. So far as regards the reducing the demand for slave labor, that part of the plan of course meets with the approbation of the Ministers. The calculation that one half the labour of the slaves would be reduced is stated to be greatly under the mark. The portion of labour which would be saved is that pressing the most severely on the slave, being night work in the curing houses and in the distillation of rum, and as the plough has been lately introduced into the field labour, the work of the slave would be trivial. The manufacturing of the saccharine matter in England would be attended with great changes—the detail of the refining would be completely altered—the process of distilling rum would also be entirely a new one. The refiners, a powerful body, are the only persons who have evinced a serious opposition to these new measures; they carry their objections to the extreme, as all their apparatus for refining, and their valuable establishments must be changed or rendered worthless. The plan has produced a great sensation; the chief objection appears to be the throwing the greater part of the trade into few hands; but this evil would, of course, be of short duration. Large contracts are in the mean time entered into for the supply of the saccharine matter in the rude state, after the first boiling of the cane. Th etrial of the new system will commence on an extensive sale.

Brussels, Jan. 30.—As we have stated before, several corps of our army which had hitherto been encamped or cantoned near the Dutch frontiers are going into positions nearer the centre of the country, or even to serve as garrisons on our southern frontier. Some journals are wrong in inferring from the placing part of our army on the peace establishment that there is less appearance of war, for this measure, which is not even equivalent to a partial disarming, serves only to diminish in a small degree, the exense of the Treasury, by taking from the troops for the moment all the right to field rations, as well as to the indemnities due to troops on the war establishment. The same thing was done last winter.—[Courrier Belge.]

February 1.—The official part of the *Moniteur* contains the Royal ordinance, by which the King revokes his decree of the 2d of October, 1832, by which the city of Antwerp was declared in a state of siege.

Paris, Jan. 27.—Our last accounts from Blaye state that the Duchess de Berri, who had been for some time seriously indisposed, was dangerously ill. Her illness is attributed by every body here to a cause which shall be nameless, and her danger to the unskilfulness of a surgeon who has attended her. Two experienced medical men, Messrs. Orfilia and Auvity have been despatched by the Government to Blaye Those two gentlemen are more particularly known in France, as professing what is called here legal medicine; that is, offering evidence in criminal courts, in cases of death from a violent or apparently unaccountable cause.

A professer of English has lately been added to the academical corps of the University of Paris, which hereafter is to form a branch of the regular course of education in the colleges and public schools in France.

Within the last week, says an English paper, no less than four richly laden Dutch vessels, of from 300 to 500 tons, have been captured by the *Rover*.

The London booksellers, in announcing their editions of President's Jackson's proclamation relative to South Carolina, head their advertisements in capitals—"*Dissolution of the Union.*"

Talleyrand, it is said, will certainly give up his ambassadorial functions, and leave England in the course of next summer.

The British Government have proposed a small tax upon emigrants in Canada, as calculated to provide relief for the poor themselves, and therefore to encourage rather than obstruct the influx of industrious persons from the mother country.

From an official statement of the population of Rome, just published, it appears that it amounted last year to 148,459 souls, and that it had diminished by 2000 individuals since the preceding year.

Letters from Paris received in London, still speak of a change in the French ministry, but assign no grounds for the expectation.

Bankruptcy.—At a late Court, in London, there was a meeting of the creditors of B. A. Goldschmidt & Co., bankrupts. Numerous claims were entered in proof by the commissioner. Among them was one by Mr. Timothy Wiggins, an American merchant, which was objected to in part. No estimate of the dividend is made; but the claims amount to upwards of 100,000*l.*

Latest from Oporto.—We learn from Gibraltar papers to Feb. 4th, brought by the brig Marcellus, Capt. Jennings, that the American brig Hyperion arrived there on the 1st, in three days from the mouth of the Douro, having previously transhipped into boats, to be landed at St. Joao da Foz, Count Saldanha, Generals Stubbs and Cabrera, and several other officers. The Miguelite batteries continued very active. Capt. Jennings was informed by the master of the Hyperion, *that the Cholera had broken out in Oporto*, and states that in consequence, the Hyperion had been placed under quarantine in Gibraltar. The Gibraltar papers do not allude to this fact. [Our latest previous accounts from Oporto were to Jan. 22d.]—[Jour. of Commerce.]

From Liberia.—A letter has been received, via St. Thomas, from Capt. Hardie, of the ship Lafayette, which sailed from Baltimore with emigrants in December. They arrived at Liberia on the 20th of January, after a passage of 38 days from Cape Henry—all well.

The U. S. schr. Porpoise, Capt. McIntosh, sailed from Monrovia on the same day on which the Lafayette sailed. No letters have been received except the one above mentioned. A vessel was to sail for Philadelphia in a few days, by which letters may be expected.—[Balt. Chron.]

SUMMARY.

The Supreme Court of the United States terminated its session on Friday last.

[*From the New-York Gazette.*]

British Northern Expedition.—Our readers will recollect that some months since Capt. Back, of the royal navy, proposed to the British government and to certain gentlemen in London, the project of an Expedition to the Frozen Ocean, in search of Capt. Ross and his companions, who sailed four years ago, and have not been heard from. A public meeting has in consequence been held, and a subscription raised for the purpose of carrying it into effect. The whole sum necessary for the purpose is £5000, £2000 of which is furnished by the government, and the whole placed in the hands of a committee appointed to its superintendance, of which Sir George Cockburn was the chairman, previous to his departure from England. Captain Back, who is appointed to the command, has had an interview with the King and royal family at Brighton, on the subject of the expedition, and was highly complimented for his gallant proposition. The Princess Victoria, (heiress to the throne) presented him a beautifully mounted compass, with a handsome inscription. He is to be accompanied by five men only, three of whom are landsmen, and were companions of Capt. Franklin and himself on a former occasion, one sailor, new to the enterprize, and Mr. King, surgeon, making the whole party six. They were to leave London on the 9th February, to sail from Liverpool a week afterwards for NEW-YORK, and thence take the Northern route, with a number of Canadians, engaged to go along with him, and assist in the expedition. He has seen a chart left by Ross, in which the course he proposed to take is laid down, and this may guide him to the spot, if such there be, where that enterprizing officer may happily be found, and rescued, if still living, from sufferings and death. Capt. Back is provided with instruments of the most perfect kind, and geography and general science must receive great benefit from his toils. The Hudson's Bay Company have acted in the most liberal manner in his behalf, adopting every precaution to promote his success, and giving him a commission in their service, which will place very essential assistance at his disposal throughout the North American continent. For provision he takes hardly any thing but *pemmican*, the most portable and nutritive. Beads, trinkets, tobacco, &c. are to be carried out as gifts to the natives. Since writing the above, we learn that Capt. Back was to sail on the 16th, in the Hibernia.

FIRE.—The Turpentine Distillery of E. D. West, corner of Eighteenth and West streets, was slightly injured by fire this morning, about half-past eight o'clock.

The body of Mr. William Dehon, of the late firm of T. K. Jones & Co. auctioneers, has been found on the shore of one of the islands in the harbor of Boston. He had been missing for several days.

Another.—BOSTON, MARCH 16.—Yesterday morning we learn the body of Captain Edward Battles, superintendent of the laborers at the Dry Dock in the Navy Yard, Charlestown, was found suspended in his wood shed. The cause for the perpetration of the act is unknown.

In the Senate of Massachusetts, a bill to abolish company trainings of the Militia, and to substitute an annual inspection, &c. passed by a vote of 20 to 17, on Friday last.

The packet ship Susquehanna, of 600 tons, intended for the Liverpool trade, was launched at Mr. Vaughan's yard, in Philadelphia, yesterday.

The General Assembly of Virginia have allowed Mr. Leigh, in their Appropriation law, $2,500 as a compensation for his services in South Carolina.

The Albany Daily Advertiser of Saturday gives the following list of appointments made for this city on the preceding day, by the Governor and Senate:

Robert J. Dillon, notary public, in the place of Thomas Slidell, resigned; Stephen Allen, Walter Bowne, Benjamin M. Brown, Saul Alley and Charles Dusenbury, "water commissioners for the city of New-York;" Jas. Lowerie, Jacob Shumway, Henry Howard, Philo Lewis, Andrew Wilson, and Thomas Gardner, inspectors of beef and pork; Daniel Gordon, Benjamin Cooper, and Oliver H. Taylor, inspectors of leather.

SHIPWRECK.—The *John Wells*, arrived at Philadelphia from Liverpool, reports falling in on 15th February with an American ship, having a signal of distress flying. It proved to be the ship Catharine, from Mobile for Havre, with a cargo of cotton—abandoned by the crew in a sinking condition having ten feet of water in her hold. The cargo is heavily insured in this city.

We learn that early next month, the Citizens' Line will start an evening boat for Baltimore, via the railroad, the passengers leaving Philadelphia immediately after the arrival of the New-York boat. By this arrangement those who leave New-York at six o'clock in the morning, may arrive at Baltimore at about eleven o'clock in the same evening, and those who leave Baltimore in the evening, will reach Philadelphia in time for the six o'clock boat to New-York.—[Philadelphia Inquirer.]

The New York Institution for the Blind.—We have several times briefly noticed the condition of this infant institution, the helpless condition of its pupils, the creditable progress they have made in knowledge and useful arts during the few months they have had instruction, the philanthropic and intelligent efforts made in their behalf by Drs. Russ and Akerly, and the appeal which it makes for aid in sustaining them.

We feel called upon to mention the subject again, by a conviction that this highly interesting and promising institution is in imminent danger of destruction through the neglect of our city government, those who ought to sustain it.

It presents claims upon the public at large, but more particularly upon those who have rendered its establishment indispensable, by producing subjects for it.

Petitions have been sent to Congress and to the Legislature of the State, by the directors of the institution, soliciting aid; and a more urgent one has been before the Corporation for weeks, slumbering, as we understand, in the hands of Dr. Rhinelander, chairman of the committee to whom it was referred. The five pupils now under the charge of the institution, are poor boys from the penitentiary, who lost their sight by the ophthalmia, a disease which was permitted to rage there many months, and reduced scores of old and young to blindness for life. An invitation was accepted by the Board of Aldermen, to attend an exhibition of the children on Wednesday

Institutions for the blind are now establishing in Boston and Philadelphia, with a spirit becoming the people. It is left for the government of New York to disregard their own blind and to turn a deaf ear to every appeal made by benevolence in their behalf.

We recommend another public exhibition to be made, that the subject may be laid before the citizens. —[Daily Advertiser.]

SHIPWRECK.—We learn by the *Marcellus* from Marseilles, that the brig John Welch, from Leghorn for New York, on the 22 January, in a dark boisterous night, was cast away five leagues to the Westward of Malaga. With great difficulty the captain and crew were all saved. The cargo, consisting of silks, linens, &c. will be mostly saved, through the diligence of Mr. Barrel, American Consul at Malaga, to whom, says the report, we cannot attach too much praise, for his assiduity and gentlemanly conduct.—The moment he heard of the disaster, he started for the wreck with all possible haste, taking with him assistance to prevent plunder, and the next day had 131 bales of goods in Malaga without damage. The Consul came from the wreck in company with the captain, and reported that all the cargo that could be saved was then on shore, which comprised all the valuable goods, though with some damage. The sails, both lower masts, spars, &c. were taken out of the vessel and carried ashore. The hull and marble will be a total loss, being too heavy to move from her. Though the weather was very severe, the Consul had been lodging in a tent in the vicinity of the wreck all the time.

[*From the Journal of Commerce.*]

MELANCHOLY SHIPWRECK.—The report brought by the whale-ship Martha, of having seen 14 dead bodies and pieces of wreck in lat. 5 deg. 4 m. South, and lon. 29 deg. 15 m. 30 s. West, has awakened a painful interest in the community to know more of the disaster, or at least to be able to identify the ship. It would nevertheless be a melancholy duty to announce this identity, even if we had the means of so doing. Having obtained some information which induced us to fix upon a particular ship as the subject of this catastrophe, we yesterday went on board the Martha, at anchor in the Hudson, in order to obtain such further information as we might be able. The entry on her log-book is as follows:

"Sunday, Feb. 10, lat. 5. 4. S.—lon. 29. 15. 30. Wind S. E. by E. Pleasant weather. At 8 A. M. saw large schools of fish. At 9 A. M. saw a dead body, and from 9 to 12 counted 14 dead bodies. Lowered a boat and picked up several articles supposed to belong to the same ship; a work-bench,—try-sail-mast, badly burnt from 10 feet from the deck,—a stage that had the appearance of being over the side for caulking, the slings being burnt off six feet from the stage. Saw pieces of bulwarks, &c."

In addition to the articles above mentioned, is a block of wood, once a part of a ship, on the upper side of which is written in ink, with a fair hand,

"M. H. Taylor,
Mate of
Ship H ."

The H. is nearly chafed out, and the rest of the word of which it is the initial, almost entirely. The block is now at this office, and can be seen by those who desire it. There is no paint except upon the under side, and from its general appearance we should think it must have been a refuse block, not in use at the time of the disaster. Hence it is *possible* that it may have originally belonged to some other ship than the one destroyed.

There is no doubt whatever, of the ship having been destroyed *by fire:* and it is probable it might have caught from the burning of the pitch while heating on deck for the purpose of caulking. Pitch had deen dropped on the staging. This staging, if we rightly understood the mate of the Martha, was formed by nailing cletes across a common house-ladder, 25 or 30 feet in length, and placing boards upon them. From the dimensions of the try-sail mast, the ship would appear to have been about 500 tons burthen.—The work bench was of the kind usually found in joiners' shops, with a wooden vice, &c. Such work-benches are not common on board ships, and still less are house-ladders of the length above mentioned.

We shall now state some reasons which led us to *fear* that the ship burnt is the *Hellespont*, Capt. William Henry, of Boston. This ship sailed from Boston on the 25th of December, bound to Valparaiso, the Sandwich Islands, and India. On the 1st to the 10th of Feb. she might be expected to be in about the position where the ship was burnt.

2. The name on the block of wood. We have seen a letter from a commercial house in Boston, which, after alluding to the dead bodies, says, "It is feared they were from the ship Hellespont. M. H. Taylor was mate of that ship." Another letter from a gentleman not a merchant, speaks of him as having been a *seaman* on board the Hellespont.

3. The work-bench and ladder. On board the Hellespont were Messrs. P. A. Brinsmade, Willian Ladd, and William Hooper, passengers, who were going to establish themselves as a commercial house at the Sandwich Islands. It is common for persons proceeding to those Islands with a view to permanent residence, to take with them the frames and other materials of houses, it being impossible to obtain them on the spot. Those who fitted out the Hellespont, will know whether such was the fact in the present instance. If it were, the work-bench and ladder would be a natural accompaniment. We do not find that there were any other passengers on board. A Boston paper of the 24th Dec. in giving a list of the passengers, mentions no others. The Missionaries did not sail in this ship, as seems to be the impression of many, but in the Mentor from New London, 21st November. Messrs. Brinsmade, Ladd, and Hooper, however, had been influenced, in going out, very much by a desire to aid the missionary cause; and if lost, their loss will be deeply lamented. Mr. Brinsmade was from Hallowell, Me. and Mr. Hooper from Marblehead.

We have thus presented the facts in regard to this melancholy shipwreck, so far as we have been able to collect them. We do not feel *certain* that the ship is the Hellespont, though we think there is great reason to fear that such is the fact. At the same time it appears to us rather extraordinary that the Martha should have fallen in with so many bodies, when the whole number of persons on board (supposing this to have been the ship) probably did not exceed 20 or 25. The Martha passed within a few feet of two of the bodies: the first was in seaman's dress; the other was little else than a skeleton.—Sharks were numerous in the vicinity. Could not say for certainty, whether any of them were in landsmen's dress, or whether any of them were females. Several were at too great a distance from the ship's course, to be able to distinguish their dress.

INDIAN EXPENSES.—From the act making appropriations to carry into effect Indian Treaties, &c., as published in the Globe of Saturday, we make the following abstract:

For the *Winnebagoes*, for treaty of September. 1832,	$23,382
For the *Sacks* and *Foxes*,	69,474
For the *Shawnees* and *Delawares*, Oct.	42,250
For the *Kaskaskias* and *Peorias*,	8,630
For the *Appalachicola* tribe	13,000
For the Potawattamies of the Prairie by treaty of October 1832, and January 1833,	124,779
For the *Kickapoos*, by treaty of Oct. and Nov.	71,232
For the *Potawattamies of the Wabash*, October,	283,761
For the *Potawattamies of Indiana*	81,520
For the *Piankeshaws* and *Weas*	22,262
To enable the President to extinguish Indian titles in Indiana, Illinois and Michigan, in addition to grant of last year,	3,871
For Expense of the treaty at *Butte des Morts*, in addition to former appropriation,	400
For removal and subsistence of the Creeks, &c. in addition,	16,561
For arresting and guarding *Ioway* murderers,	1,023
For locating *Choctaws*, (not before provided for	1,500
For expense of *Chickasaw* deputation to Washington,	1,650
For expense of keeping twelve prisoners of war of the *Sacks* and *Foxes* as hostages, &c.,	2,500
For Sundry small items—together	4,030
For expense of removing and subsisting the *Choctaw*, *Creek*, *Cherokee*, and *Ohio* Indians,	474,013
For holding a treaty with the *Potawattamies* to extinguish their remaining title in Illinois,	10,000
For carrying into effect treaty with *Chickasaws*, to be refunded out of sales of their land,	100,000
For do do with the *Ottawas*,	47,400
For do do with the *Menominees*	58,600
For several small items—together,	5,000
For expense, if found necessary, of repressing Indian hostilities on the frontiers,	100,000
	$1,566,838

The greater portion of this million and a half of dollars is for enabling these Indians to remove, compensating them for their improvements, and providing blacksmith's shops, school masters, &c., in their new settlements. There is also a proviso in the bill to compensate the American Board of Foreign Missions for the value of their improvements, &c., in the *Choctaw* settlement, sold at the treaty of the Dancing Rabbit Creek.

The Operation of the Laws passed at the late session, for the regulation of the revenue, and for the explanation of various acts connected with the collection of duties, is set forth in the annexed circular from the comptroller of the Treasury.

We regret to perceive by it, that no discretion exists in the Treasury Department to extend the time for the payment of duties on such Kendall coatings, &c. as, having been ordered under the law of July last, will, by the law of 2d inst. be subject to a duty of 50 per cent. instead of 5.

Measures however are indicated, whereby importers will be enabled the more readily to establish their claims before next Congress, for the return of the duties they will be called on to advance.

We have no space to-day for comments on any other parts of this circular.

Circular to Collectors, Naval Officers and Surveyors.

Treasury Department,
Comptroller's Office, March 7, 1833.

Sir—You will receive, herewith, for your government, the following acts passed at the last session of Congress, viz.:

1. "An act to explain an act entitled 'An act to reduce the duties on coffee, tea and cocoa,' passed the 20th May, one thousand eight hundred and thirty."

2. "An act to explain and amend the 18th section of 'An act to alter and amend the several acts imposing duties on imports,' approved the 14th July, 1832."

3. "An act establishing a port of entry and delivery at the village of Fall River, in Massachusetts, and discontinuing the office at Dighton."

4. "An act to explain and amend the act to alter and amend the several acts imposing duties on imports, passed the 14th July, 1832, so far as relates to hardware and certain other manufactures of *Copper* and *Brass*, and other materials."

5. "An act to modify the act of the 14th July, 1833, and all other acts imposing duties on imports."

The third section of act No. 2, contains the following provisions, viz.:

"If a sum equal to the amount of duties levied by the said act of the 14th July, shall not have been collected, and the bond or bonds given shall amount to more than the duties imposed by said act, the Secretary of the Treasury shall direct that a debenture cetrificate or certificates, the form of which shall be prescribed by him, for such excess of duty, shall be issued to the persons placing the same in the custody of the customs, payable out of the bond or bonds given for duties on the same. The collectors to give the debtors credit on the bonds for the difference between the high and low duties, and to cancel the bodns on payment of the balance."

To carry these different provisions into effect, you are when the importer deposits the goods, to credit his bonds with the difference between the high and low duties, and if any excess shall then appear to nave been paid, such excess is to be refunded to him at the Treasury; but if, upon giving such credit, the full amount of duties according to the existing laws will not have been paid, the bonds are to be cancelled only on the payment of the balance thus remaining to be paid.

But in case of goods being deposited by a person other than the importer thereof, and a sum equal to the amount of duties levied by the said act of the 14th July, shall not have been collected, and the bond or bonds given shall amount to more than the duties, imposed by said act, instead of giving a credit on the duty bonds of the importer, for the difference between the high and low duties, a debenture certificate is to be issued to the person depositing puch goods for such difference, the form of which, marked A, approved by the Secretary of the Treasury, is herewith transmitted.

From this form you will perceive that the debentures will be payable only in case the duty bonds on which they may be predicated, shall be paid.

The same principle is to govern in the case of goods heretofore liable to duty, but which, under the act of the 14th July, 1832, will be free.

If such goods be deposited by the importer, any duties which may have been paid thereon, are to be refunded to him at the Treasury, and the bonds for the balance of the duties (if any) are to be cancelled; and if such goods be deposited by a person other than the importer, and no duties thereon have been paid, he is to receive debenture certificates for the whole, payable at the same times respectively at which the bonds given for the duties will become payable: but if a part of the duties were paid, then such part is to be refunded to the person who may have deposited the goods, and debenture certificates for the balance of the duties are to be granted to him, payable as before mentioned.

The 3d section of act No. 2, also contains a provision according to which goods deposited and remaining in the custom house stores until the 1st of April next, will be entitled to the benefit of the 18th section of the act of 14th July, 1832, and if any higher duty shall have been paid thereon than would have been levied under the last mentioned act, such excess is to be refunded out of any money in the Treasury not otherwise appropriated, to the person who may have placed the same in the custody of the customs.

The applications for a return of such excess of duties, as well as for other duties to be refunded, are, of course, to be made to the Treasury, and to substantiate the claims, a certificate of the custom house officers is to be produced, agreeably to the enclosed form, marked B.

When goods which have been or which shall be deposited for the benefit of the 18th section of the act of the 14th July, 1832, by persons other than the original importers thereof as authorized by the accompanying act No. 2; the identity is to be established by satisfactory evidence of the transfer or transfers for your government, in relation to which the Secretary of the Treasury directs that the regulations prescribed by law, when goods are exportod for the benefit of drawback by persons other than the original importers thereof, be observed.

Information having been received from sources entitled to entire confidence, that impositions have been practised, and will continue to be practised, on the revenue, by invoicing and entering the articles known by the names of "*Summer Cloth*," and "*Brochellas*," under the name of "*Worsted stuff goods*," when, according to the materials of which they are both composed, (say worsted or *combed wool* and *cotton*) they are not entitled to that classification, but are liable to the *Woollens duty*, it becomes necessary that measures be adopted at the custom-houses, in the examination and inspection of such goods, to detect and prevent impositions of the kind in future.

In compliance with instructions from the Secretary of the Treasury, you are requested to refund the discriminating duties of tonnage which have been levied by you on Mexican vessels since the 5th April, 1832, the date of the President's Proclamation, directing the Treaty between the United States of America and the United Mexican States, to be fulfilled.

It is deemed proper to take this occasion to communicate to you the following decisions of this office, viz:

1. That in estimating the value of *wool unmanufactured*, at the place of exportation—to the actual cost, if the same shall have been actually purchased, or the actual value, if the same shall have been procured otherwise than by purchase, at the time and place, when and where purchased, or otherwise procured, or to the appraised value, if appraised, are to be added *all charges*, except insurance, and the weight is to be regulated with reference to the pound weight as known and established in the United States. If it shall be proved to your satisfaction, that there is any difference between the pound weight in the United States and that of the foreign country of exportation, such difference is to be taken into view in the computation of the value of the wool. If the value of *unmanufactured wool*, estimated in the manner thus prescribed, shall exceed eight cents per pound, it will be liable to duty, and vice versa, if it does not exceed that sum per pound. An actual weighing at the time of arrival, in considered necessary in all cases, in order to ascertain whether the wool will or will not be liable to duty.

2. That an article called "*Fancy Coral*," in thin uneven pieces, about a quarter of an inch in length, with a hole midway between the two ends, is not considered as coming under the denomination of "*Beads*," in contemplation of law, and if not entitled to the general exemption from duty of "*Coral*," is entitled to such exemption as an article not enumerated in any law, and heretofore liable as such, to an ad valorem duty of 15 per cent. The circumstance of such *Coral* being strung, is not considered as placing it upon a different footing.

3. That *Coral beads* are liable to an ad valorem duty of 15 per cent. as "all other *beads*, not otherwise enumerated."

4. That window blinds, made of split rattans, are liable to an ad valorem duty of 15 [25] per cent. as manufactures of wood.

5. That all articles composed entirely of *Silk* and *Linen*, are entitled to an entry as *manufactures of Silk*, or of which *Silk* shall be a *component* part."

6. That all *iron chains*, which from the form and thickness of the links, are suitable for, and are generally used for *Cables*, whether of large or small vessels, are to be subjected to the specific duty of 3 cents per pound.

7. That *Goats* and *Camel's hair Camlets*, are entitled to an entry at 15 per cent. being considered as coming under the general classification of "*Cashmere* or *Thibet*," in contradistinction to the classification of "*Merino Shawls* made of *wool*, and all other manufactures of *wool*, or of which wool shall be a component part."

8. That shawls, the body composed of *Silk* and *Worsted*, with the figures on the border formed with *carded wool*, are considered to be entitled to be plaeed under the classifiation of "*Shawls* and other manufactures of *Silk* and *Worsted* at an ad valorm duty of 10 per cent.

9. That shawls of worsted or *combed Wool* and *Cottons*, are liable to the *Woollen's* duty.

10. That the articles called *brown rolls*, or Heedens, Dowlas, Pla Illas, Creas, and Bretagnes, are entitled to an entry at an ad valorem duty of 15 per cent.

11. That the following articles are liable to an ad valorem duty of 25 per cent. viz: black linens.—Russia sheetings, linen diapers and damasks; damask table cloths and napkins, linen sheeting, linen drillings for pantaloons, linen lawns, called long lawns, linen threads, Irish linen shirtings and estonilles.

12. That sail needles, sack and yarn needles, darning needles, bent packing needles, shoemaker's glover's, and saddles netting and tambouring needles, and all similar needles, are embraced by the general exemption of "*Needles*." Bodkins not included.

13. That so much of the act of 20th April, 1818, as requires wines and distilled spirits to be deposited in the public stores, to be entitled to drawback, is considered to be still in force; but that the terms of credit therein allowed are virtually repealed by the 5th section of the act of the 11th July, 1832, entitled "An act to alter and amend the several acts imposing duties on imports," the provisions in this respect, in the last mentioned act, being so repugnant to those in the former, that both cannot stand well together, and have a concurrent efficacy.

It may be proper to observe, however, that this decision is applicable only to the importations of wines and distilled spirits, which have been made since the 3d instant, and which may hereafter be made.

It is understood that large importations were made of the articles known by the name of Plains, Kerseys, and Kendal Cottons, and deposited in the custom-house stores for the benefit of the reduction of duties which was to have taken effect after the 3d day of the present month, as authorised by the act of the 14th July, 1832, already referred to; and that orders for a large quantity of said goods have been given upon the faith that after the 3d inst. they would be admitted to entry at an ad valorem duty of 5 per cente but that under the act entitled "An act to modify the act of July, 1832, and all other acts imposing duties on imports," which, so far as relates to these particular kind of goods, having taken effect on the 2d of the month, and raised the duty thereo to 50 per cent., the importers will be compelled to advance duties, (say the difference between the higher and the lower rates,) for which, upon everyprinciple of justice and good faith, they conceive, Congress will pass a law to have refunded to them, and that such advance can be prevented only in case the Treasury Department can extend the time for the payment of the duties on the goods in question.

It is regretted that such will be the operation of the two acts mentioned; but it is not competent for the Treasury, in any case, to extend the time of payment beyond that, at which, according to law duties on goods become due and payable.

With a view, however, to facilitate any application which may be made to the next Congress for relief, it would be advisable to keep a particular account of these goods, the names of the importers, the dates of payment of the duties, and the difference between the higher and lower amount of duties.

It will naturally suggest itself to you, that you are not to include in such account any goods which you are not perfectly satisfied are of that description and fabrics as to have entitled them to an entry at five per cent., in case the act, in relation to them, of 1833, had not repealed that of 1832,

Such Plains, Kerseys, and Kendal Cottons as were imported prior to the 2d instant, will be liable to the payment of the rates of duties in force at the time of importation; but if such rates be greater than the rates fixed by the act of 2d instant, and the Plains,

Kerseys, and Kendal Cottons be deposited in the Custom House stores as prescribed by law, they will be entitled to the benefit of the 18th section of the act of 14th July, 1832. Respectfully,

J. ANDERSON, Comptroller.

ARMY OF THE UNITED STATES.

HEAD-QUARTERS OF THE ARMY,
ADJUTANT GENERAL'S OFFICE,
Order No. 14. WASHINGTON, March 6, 1833.

1. The following list of appointments in the United States Regiment of Dragoons, has been received from the War Office, and is published for general information:

WAR DEPARTMENT,
5th March, 1833.

2. The President has made the following appointment in the Regiment of the United States Dragoons, to be raised under the Act of Congress, approved Maroh 2d, 1833:

Names, Rank, and date of appointment.	Dates of former Commissions.
Colonel.	
1 Henry Dodge, 4 March, 1833.	Major of Rangers, 21 June, 1833.
Lieutenant Colonel.	
1 Step. W Kearney, 4 March, 1833.	Maj. 3d Inf. 1 May, 1829; Bvt. 1 April, 1823.
Major.	
1 Richard B. Mason, 4 March, 1833.	Capt. 1st, Inf. 31 July, 1819.
Captains.	
1 Clifton Wharton, 4 March, 1833.	Capt. 6th Inf. 22 April, 1830.
2 Edwin V. Summer, 4 March, 1833.	1st Lt. 2d Inf. 25 Jan. 1823.
3 Reuben Holmes, 4 March, 1833.	1st Lt. 6th Inf. 15 Feb. 1826.
4 David Hunter, 4 March, 1833.	1st Lt. 5th Inf. 30 June, 1828.
First Lieutenants.	
1 Wash. Seawell, 4 March, 1833.	2d Lt. 7th Inf. 1 July, 1825.
2 David Perkins, 4 March, 1833.	2d Lt. 5th Inf. 1 July, 1827.
3 Philip St. G. Cooke, 4 March, 1833.	2d Lt. 6th Inf. 1 July, 1827; Adj. 6th Reg.
4 Abm. Van Buren, 4 March, 1833.	2d Lt. 2d Inf. 1 July, 1827.
Second Lieutenants.	
1 James F. Izard, 4 March, 1833.	2d Lt. 2d Inf. 1 July, 1828.
2 Jefferson Davis, 4 March, 1833.	2d Lt. 1st Inf. 1 July, 1828.
3 Thomas Swords, 4 March, 1833.	2d Lt. 4th Inf. 1 July, 1829.
4 Joseph Ritner, 4 March, 1833.	2d Lt. 4th Inf. 1 July, 1830.

3. The organization of the Regiment of Dragoons will be perfected hereafter, by the selection of such officers from the Battalion of Rangers, as may be deemed qualified for the service. The Mounted Rangers will be coutinued in service until relieved by the regular cavalry.

By order of Maj. Gen. MACOMB,
R. JONES, Adj. General.

The Albany Argus states that Governor Marcy has appointed Benjamin F. Butler, Peter A. Jay and Henry Seymour, Commissioners on the part of this State, to adjust the boundary and jurisdiction between the states of New-York and New-Jersey.

We announce with pleasure, arrivals from Newburgh. Ere this, the Hudson is probably free of ice between this city and Poughkeepsie; and, before the end of the week, the navigation to Albany and Troy no doubt will be uninterrupted.—[Gazette.]

WHALING—*Unparalleled luck.*—About the 1st of August last, the ship Boston, Capt. Sayer, left this port fitted for a twelve months' voyage. We have the pleasure of stating that the Boston has returned, after an absence of only seven months, laden with 1900 barrels of right whale oil, and 16,000 ponnds of whale bone, Lester & Huntington.—[Norwich (Con.) Republican.]

SALES OF REAL ESTATE AT AUCTION.

BY JAMES BLEECKER & SONS, MARCH 9th.

Under the direction of F. De Peyster, Jr. Esq. Master in Chancery—the Estate of G. B. Abeel.

3 story frame house and lot 657 Water street, 16:8x70	$1,923
Do do do 655 do do	1,750
Do do do 653 do do	1,600
2 story do do in the rear of the above on Front street, lot 16:8x70	1,600
Do do do adjoining do	1,450
Do do do do do	1,450
Vacant lot extending from E. Broadway to Division street, on Clinton, east side, 23:4x110:10	4,200
Lot adjoining on E. Broadway and Division street	3,500
Do do do do do	3,400
Do do on Division street, 23:4x54:6	1,700
Lot and four frame buildings NW. corner Pearl and Augustus streets, 30 feet on Pearl, 107 feet 2 inches on Augustus, 92 feet 1 inch on the other side, and 25 feet in rear	8,125
3 story brick house and lot 19 Park Place, with a 2 story brick coach house on Murray street, lot 26 ft on Park Place, and 25 ft on Murray street	31,000
House and lot 386 Water street 20:6x60:2	4,550
3 story brick house and lot 87 Cherry street, 17x70	4,700
Do do do 89 do do do	4,700
2 story brick house 364 Water street, 16:11x49:8	3,800
Do do 364½ do do 16:6x60	3,600
3 story brick store and lot 190 South street, and 365 Water street, lot 33:4 on each street, by 160 6	21,100
3 story brick store and lot S E. corner of James slip and Water street, lot 26 ft 3 in front, 25 ft 5 in rear, by 45 ft deep	8,100
Do do do adjoining, 12 James slip	4,600
Do do do do 14 do do	5,000
All the right and interest of A. B. Abeel to part of pier 31 East River, foot of James slip	2,100
Do do do do pier 32 do	1,600
Bulk head on South street, between the above piers	500
	$126,050

☞ NEW-YORK FARMER AND AMERICAN GARDENER'S MAGAZINE. *Whole number, Vol. 6. New Series, Vol.* 1. This is an AGRICULTURAL periodical, published *monthly*, containing 32 large quarto pages of three columns each, devoted particularly to *Agriculture, Horticulture*, &c. It will also contain much interesting matter upon other subjects, such for instance as *road making and repairing*, together with *steam carriages* for common roads, with other modes of improving *internal* communication. Its *main* object, however, is to collect from those who cultivate the soil *scientifically*, and *observingly*, and to dissemmate such information as may tend to improve the mode of cultivation throughout our widely extended country. No person will deny the utility of such a publication *properly* conducted; nor will any one doubt me when I say that such a paper cannot be *properly* conducted and handsomely executed, without an extensive circulation and *prompt payment* to meet its expenses.

Terms, Three Dollars per annum, *in advance*; and will not be sent without, as, at its *present* price, it will not pay a commission for collecting, nor bear the loss arising from want of punctuality on the part of subscribers.

D. K. MINOR, Proprietor,
35 Wall street, New-York.

GARDEN SEEDS, &c.

WM. PRINCE & SONS, Flushing, near New-York, have imported by the last arrivals several thousand dollars worth of Seeds of the choicest varieties of Vegetables known in the different countries of Europe, and will furnish supplies to venders at very reasonable rates. These seeds are of a quality *not to be surpassed*. They have also 200 pounds Yellow Locust, or Robinia Pseudacacia seeds, of the fine Long Island variety, so celebrated for ship timber, at a low price.

Priced Catalogues will be furnished on application *direct*, per mail, or otherwise. Catalogues of Fruit Trees, Greenhouse Plants, &c. with *the reduced prices*, will also be sent gratis to every applicant. feb20

G. LANSING, *Engraver on Wood*,
35 WALL STREET.

☞ All kinds of Machinery correctly drawn, and neatly engraved. M4

☞ TOWNSEND & DURFEE, of Palmyra, *Manufacturers of Railroad Rope*, having removed their establishment to Hudson, under the name of *Durfee & May* offer to supply Rope of any required length (without splice) for inclined planes of Railroads at the shortest notice, and deliver them in any of the principal cities in the U. States. As to the quality of Rope, the public are referred to J. B. Jervis, Eng. M. & H. R. R. Co., Albany; or James Archibald, Engineer Hudson and Delaware Canal and Railroad Company, Carbondale, Luzerne County, Pennsylvania.

Hudson, Columbia County, New-York,
January 29, 1833. f31 tf

☞ GRACIE, PRIME & CO., 22 Broad street, have on hand the following Goods, which they offer for sale on the most favorable terms, viz:

200 qr casks Marseilles Madeira, entitled to debenture
100 cases White Hermitage
50 do. Bordeaux Grave
4 cases Gum Arabic
2 cans Oil of Orange
8 casks French Madder. ESFF
2 do. do. SFF
10 do. Danish Smalts, FFFE; 20 do. Saxon do.
8 do. Small do.; 20 kegs Tartaric Acid
200 kegs Saltpetre
200 bales superior quality Italian Hemp
20 tons Old Lead
300 barrels Western Canal Flour
500 do. Richmond country do.
100 bales Florida Cotton; 20 do. Mexican do.
20 do. Sea Island do.
200 do. Leghorn Rags, No 1.
100 do. Trieste do. SPF
100 do. do. do. FF
18 boxes Maraschino Cordials
350 lbs. Coney and Hares-back Wool, for Hatters
80 M. English Quills.

DRY GOODS—by the package.

20 cases white and dark ground, fancy and full Chintz Printz, all new styles received per Napoleon.
9 do. assorted colored Circassians
18 do. do. do. Merinos
5 do. Italian Lustrings
1 do. 36 inch Cravats
10 do. Jet black Bombazines
8 do. Printed border Handkerchiefs
2 do White Diamond Quiltings
2 do Furniture Dimities
2000 pieces Engl. Brown Shirtings, 33 in.

entitled to debenture.

MECHANICS' MAGAZINE,
AND
Register of Inventions and Improvements.

☞ To the Mechanics of the United States.—In this populous and enlightened country, almost every description of persons can obtain knowledge and amusement, connected with their peculiar pursuits, through the Medium of the Journal or Magazine especially devoted to their interests. The *Theologian*, the *Farmer*, the *Philosopher*, the *Sportsman*, and even the *Plough-Boy*, has each his journal, where he can find a record of the passing events of the day, connected with his peculiar avocations, and recreation. Hitherto, the *Mechanics* (who form a large and most important portion of the community) have had no Journal to which they could turn, with the certainty of finding that information they desire—no periodical, of which they could with confidence say,

"THIS IS OURS, AND FOR US."

In the hope that the attempt to supply such a want, at a price so reasonable as to be within the reach of all, will meet with your active support, the subscriber proposes to publish on the first day of each month a "*Mechanics' Magazine.*" It will contain a well digested selection of the most useful and interesting articles from the London Mechanics' Magazine, London Register of Arts and Sciences, Repertory of Inventions, Library of Useful Knowledge, Journal of the Franklin Institute, and other works connected with the Arts and Manufactures published in this country and in Europe, accompanied with numerous well executed engravings. Its pages will be open for the communications of all, and especially for those of the Practical Artisan, to whose interests it will be more particularly devoted.

The "*Mechanics' Magazine*" will contain also a due portion of the occurrences of the month, Scientific and Literary, Reviews of Books, Anecdotes, Economical Receipts, Reports of the state of *Mechanics' Institutions*, and other Scientific Societies in this and other countries.

☞ In order that the work might be produced to the entire satisfaction of those for whom it is designed, and with credit to myself, I have secured the aid of a gentleman who was for several years engaged in publishing the *London Mechanics' Magazine*—a work of great merit and extension, and which Dr. Berkbeck, the President of the London Mechanics' Institution pronounced as the most valuable gift the hand of science ever offered to the Artizan.

Each succeeding number will contain 64 pages, handsomely printed, and attached in a neat cover. Six numbers will form a volume, for which an Index and Title-page will be supplied, and also a Portrait of some distinguished Mechanic, as a Frontispiece.

Terms, $3 per annum, *in advance.*

D. K. MINOR, 35 Wall street, New-York.

PATENT RAILROAD, SHIP AND BOAT SPIKES.

☞ THE TROY IRON AND NAIL FACTORY keep constantly for sale a very extensive assortment of Wrought Spikes and Nails, from 3 to 10 inches, manufactured by the subscriber's Patent Machinery, which after five years successful operation and now almost universal use in the United States (as well as England, where the subscriber obtained a Patent,) are found superior to any ever offered in market.

RAILROAD COMPANIES may be supplied with Spikes having countersink heads suitable to the holes in iron rails, to any amount and on short notice. Almost all the Railroads now in progress in the United States are fastened with Spikes made at the above named factory—for which purpose they are found invaluable, as their adhesion is more than double any common spikes made by the hammer.

☞ All orders directed to the Agent, Troy, N. Y., will be punctually attended to.

HENRY BURDEN, Agent.

Troy, N. Y., July, 1831.

☞ Spikes are kept for sale, at factory prices, by I. & J. TOWNSEND, Albany, and the principal Iron Merchants in Albany and Troy; J. I. Brower, 222 Water-street, New-York; A. M. Jones, Philadelphia; T. JANVIERS, Baltimore; DEGRAND & SMITH, Boston.

P. S. Railroad Companies would do well to forward their orders as early as practical, as the subscriber is desirous of extending the manufacturing so as to keep pace with the daily increasing demand for his Spikes.

j23 1am H. BURDEN.

PAPER.

THE SUBSCRIBERS, Agents for the Saugerties Paper Manufacturing Company, have constantly on hand an extensive assortment of Royal, Medium, and Imperial Printing Paper, all made from first quality Leghorn and Trieste Rags. All contracts made after this date, will be furnished with 480 perfect sheets to the ream; and all sales amounting to over $100, of Medium or Royal, out of that part of the stock which includes cassia quires, the purchasers will be allowed an extra quire of perfect paper to each double ream, with additional allowances to the publishers and the trade, who buy largely. The terms will be liberal. Apply to GRACIE, PRIME, & CO.,

J31 22 Broad Street.

METEOROLOGICAL RECORD FOR THE FORTNIGHT ENDING MONDAY, MARCH 18, 1833.

KEPT IN THE CITY OF NEW-YORK.

[Communicated tor the American Railroad Journal.]

Date.	Hours.	Barometer.	Thermometer.	Winds.	Strength of Wind.	Clouds from what direction.	Weather and Remarks.
Tuesd. Mar. 5	6 a. m.	30.45	12	NW	light	WSW	fair
	10	.48	21	NW—WSW	moderate	..	.. —thin *cirrus* from WSW
	2 p. m.	.44	23	WSW—SW	..	..	.. —cloudy
	6	.30	21	SW	..	..	cloudy
	10	.19	21	..	..	..	snowy
Wednesday, 6	6 a. m.	29.89	21	NNE—N	..	W by S	snow—fair
	10	.90	24	NNW	..	WSW / W	fair
	2 p. m.	.97	32	..	fresh	NW	.. —cloudy
	6	30.04	30	..	moderate	..	cloudy—fair
	10	.14	25	..	..	..	fair
Thursday, 7	6 a. m.	.20	24	WSW	light	W	cloudy
	10	.20	29	SW—SSW	moderate	W by S—WSW	..
	2 p. m.	.11	35	SSW—S	..	WSW—SW	.. —clear
	6	.00	34	S	..	..	clear
	10	29.99	32	..	..	W	fair
Friday, 8	6 a. m.	.94	33	..	..	SW by W	cloudy
	10	.89	38	SSE—variable	light	..	fair
	2 p. m.	.83	42	ESE—E	..	..	cloudy
	6	.78	39	E	..	..	.. —fair—cirrus at WSW
	10	.77	37	ENE	..	..	cloudy
Saturday, 9	6 a. m.	.80	33	N	..	..	fair
	10	.89	42	NNW—W	..	..	..
	2 p. m.	.81	41	WNW—SW	..		clear
	6	.83	40	SSW	..		..
	10	.89	35	..	..		..
Sunday, 10	6 a. m.	30.01	32	SW	..	WSW	fair
	10	.06	44	ENE	faint	..	..
	2 p. m.	.08	45	..	light	W by S	.. —cloudy
	6	.10	40	..	moderate	..	cloudy
	10	.11	38	..	..		rainy
Monday, 11	6 a. m.	.24	30	NNE	..	NNE	cloudy—thick low scuds
	10	.30	34	NE by E	..	NE by E	fair — ..
	2 p. m.	.30	39	NE—ENE	..	NE—ENE	.. — ..
	6	.30	37	E	..	W by S / E	.. —cloudy
	10	.31	36	..	..		cloudy
Tuesday, 12	6 a. m.	.39	36	ENE	..		.. —foggy
	10	.27	33	..	..		.. — ..
	2 p. m.	.18	27	..	..		.. — .. —rainy
	6	.10	37	..	..		rainy— ..
	10	.04	36	NE	fresh		rain
Wednesday, 13	6 a. m.	.00	34	N—NW	..	W by S	cloudy
	10	.10	34	NNW—W	..	..	fair
	2 p. m.	.13	36	NW	strong	NW	.. —scuds from NW
	6	.14	33	..	fresh	..	..
	10	.35	30	..	moderate	..	..
Thursday, 14	6 a. m.	.45	26	..	f'nt—calm		clear
	10	.51	36	WSW—SW	calm—l'ht		..
	2 p. m	.52	36	SSW—S—SSW	moderate		..
	6	.38	32	S—SSE	..		..
	10	.39	32	S	..		..
Friday, 15	6 a. m.	.24	34	SSW	..	WSW	cloudy—floating ice continues plenty
	10	.24	37	SW—S by W	light	WSW / NW	.. —fair
	2 p. m.	.24	46	WSW—NW	.. —faint		clear
	6	.24	45		calm		..
	10	.29	42		..		
Saturday, 16	6 a. m.	.41	34	NNE	light	NW	fair
	10	.47	44	NE	..	..	..
	2 p. m.	.46	46	NE by E	..		clear
	6	.43	42	NE	..		..
	10	.46	38	..	..		..
Sunday, 17	6 a. m.	.52	30	.. —ENE	moderate		..
	10	.56	38	E—ESE	..	E	fair—low scuds from E
	2 p. m.	.51	41	ESE—SSE	..	ESE—SSE	.. — ..
	6	.48	37	S by E	..	S by E	cloudy— ..
	10	.47	36	..	..		fair — ..
Monday, 18	6 a. m.	.33	36	S by W	faint	SSW	cloudy— ..
	10	.33	38	..	..	..	.. —fair
	2 p. m.	.21	49	S	moderate		clear
	6	.18	43	..	..		..
	10	.19	42	..	light		..

Average temperature of the week ending March 11, 32.25.

Average temperature of the week ending March 18, 36.

Average temperature of the week ending March 6, 21.14, being the coldest week of the season.

MARRIAGES.

On Wednesday morning, by the Rev. Dr. Mead, of Philad., JAMES TORRANCE SMITH, to JANE ELIZA, daughter of William Mead, of New Rochelle.

On Thursday morning, 21st inst. at Ascension Church, by the Rev. Manton Eastburn, JOSIAH LANE, of the house of Lane, Samson & Co. to SARAH, daughter of HENRY W HILLS.

On Tuesday evening, 19th instant, by the Rev. Dr. De Wett, GEORGE C. SATTERLEE, to MARY LE ROY, daughter of the late Daniel Livingston, Esq.

DEATHS.

Thursday morning, in the 35th year of her age, CATHARINE CECILIA, wife of B. WOOLSEY ROGERS.

Friday morning, 15th inst. HANNAH, wife of AUGUSTUS CRUGER, in the 61st year of her age.

On Monday, the 18th inst. ALMIRA, the daughter of Thomas R. Mercein, in the 18th year of her age.

Yesterday afternoon, 20th inst, CORNELIA BEACH, youngest daughter of the Rev. Samuel H. Turner, D. D., aged 18 months.

Yesterday (Monday) afternoon, at 6 o'clock, after a lingering illness, which she bore with christian fortitude and resignation, Mrs. THEODOSIA R. wife of Mr. Jacob D. F. Randolph, in the 21st year of her age.

On Sunday morning, at the City Hotel, EUPHEMIA, infant daughter of Joseph A. Constant.

On Saturday morning, March 16, after a short illness, JOHN MEALY, aged 33 years.

This morning, 19th inst, of consumption, Mrs MANICE CENTER, wife of Asa H Center, in the 42d year of her age.

On Wednesday evening, Mr. JOHN WOOD, Jr. in the 43d year of his age.

This morning, 20th inst. LOUISA CHRISTMAS, only daughter of Dr. ANSEL W IVES, aged 2 years and 5 months.

Yesterday evening, 19th inst. WALTER, son of J. W. & MARIA SMITH, aged 1 year and 10 months.

On the 7th inst. JONATHAN GARDINER, Esq. at Eton's Neck, L. I.

On Sunday morning, 17th inst. ANN F., wife of Thomas LEGGET, Jr. aged 30.

At his residence, at Jersey City, on Saturday last, AARON LYON, aged 73 years. Mr. Lyon was a resident of Jersey City of the last 28 years.

At Punchal, Island of Madeira, in December last, J. STILLWELL CLARK, aged 19 years, son of John Clark, of this city.

[*Communicated for the N. Y. American.*]

OBITUARY.

Died, on the 16th inst., at his residence in the village of West Farms, Westchester County, WILLIAM HOFFMAN, M. D., in the 52d year of his age.

A violent disease, produced by great exposure to the severity of the season while in the discharge of his professional duties, closed the life of this excellent and valuable man. For thirty years Dr. Hoffman has been a medical practitioner in the town of Westchester; and as a man and a physician has sustained a reputation of the highest order.

His long career of professional service, which made him known to almost every resident within the limits of his extensive practice, was marked by the tenderest sympathy for the suffering of every class, and a devotion to the cause of humanity in which selfish considerations were forgotten.

In the depth of the wintry night, when his frame craved repose from the fatigues of the day, he has ridden many miles to visit patients whose circumstances precluded the idea of pecuniary recompense. He has supported in his arms and ministered to the necessities of the unfortunate being left to perish unattended in a manger, during the prevalence of pestilential disease.—Always patient, affable and benevolent, he bore without complaint the ingratitude of those to whom he had rendered the offices of humanity, and was ready to repay with kindness the wrong that he suffered.

As a citizen Dr. Hoffman was distinguished for sound sense, clear judgment and unswerving integrity. As a Christian, he was devout and exemplary without affectation.

Abounding in liberality towards those who (like the writer of this notice) differed from him in the forms of religious society, he exhibited, by the tenor of his life, that *practical* piety which is beyond profession, and belongs peculiarly to no sect.

In the death of Dr. Hoffman a whole community feel that they have sustained a great—an irreparable loss. Many, very many, whose tears have fallen over his remains, will cherish in their hearts the memory of his virtues to their latest day.

E. W.

REPORT OF DEATHS—WEEK ENDING SATURDAY, MARCH 16.

Between the ages of

90 and 100— 0	50 and 60— 3	10 and 20— 9	
80 and 90— 2	40 and 50— 4	5 and 10— 3	
70 and 80— 3	30 and 40—14	2 and 5— 8	
60 and 70— 0	20 and 30—18	1 and 2— 2	

Of and under one year, 32—Total, 98.

Diseases.

Apoplexy	1	Inflammation of stomach	1
Casualty	1	Influenza	1
Childbed	5	Intemperance	1
Consumption	24	Marasmus	5
Convulsions	6	Mortification	1
Dropsy in the chest	1	Old age	2
Dropsy in the head	7	Palsy	1
Drowned	1	Peripnuemony	7
Dysetery	1	Pneumonia typhodes	1
Fever	2	Scrofula, or king's evil	1
Fever, scarlet	2	Sprue	1
Fever, typhus	2	Stillborn	9
Hives or croup	2	Suicide	2
Jaundice	1	Syphilis	1
Inflammation of bowels	2	Unknown	1
Inflammation of brain	4	Whooping cough	1

ABM. D. STEPHENS, City Inspector.

ENGINEERING AND SURVEYING INSTRUMENTS.

☞ The subscriber manufactures all kinds of Instruments in his profession, warranted equal, if not superior, in principles of construction and workmanship to any imported or manufactured in the United States; several of which are entirely *new*: among which are an Improved Compass, with a Telescope attached, by which angles can be taken with or without the use of the needle, with perfect accuracy—also, a Railroad Goniometer, with two Telescopes—and a Levelling Instrument, with a Goniometer attached, particularly adapted to Railroad purposes.

WM. J. YOUNG,
Mathematical Instrument Maker, No. 9 Dock street,
Philadelphia.

The following recommendations are respectfully submitted to Engineers, Surveyors, and others interested.

Baltimore, 1832.

In reply to thy inquiries respecting the Instruments manufactured by thee, now in use on the Baltimore and Ohio Railroad, I cheerfully furnish thee with the following information. The whole number of Levels now in possession of the department of construction of thy make is seven. The whole number of the "Improved Compass" is eight. These are all exclusive of the number in the service of the Engineer and Graduation Department.

Both Levels and Compasses are in good repair. They have in fact needed but little repairs, except from accidents to which all instruments of the kind are liable

I have found that thy patterns for the levels and compasses have been preferred by my assistants generally, to any others in use, and the Improved Compass is superior to any other description of Goniometer that we have yet tried in laying the rails on this Road.

This instrument, more recently improved with a reversing telescope, in place of the vane sights, leaves the engineer scarcely any thing to desire in the formation or convenience of the Compass. It is indeed the most completely adapted to lateral angles of any simple and cheap instrument that I have yet seen, and I cannot but believe it will be preferred to all others now in use for laying of rails—and in fact, when known, I think it will be as highly appreciated for common surveying.

Respectfully thy friend,
JAMES P. STABLER, Superintendant of Construction of Baltimore and Ohio Railroad.

Philadelphia, February, 1833.

Having for the last two years made constant use of Mr. Young's "Patent Improved Compass," I can safely say I believe it to be much superior to any other instrument of the kind, now in use, and as such most cheerfully recommend it to Engineers and Surveyors. E. H. GILL, Civil Engineer.

Germantown, February, 1833.

For a year past I have used Instruments made by Mr. W. J. Young, of Philadelphia, in which he has comoined the properties of a Theodolite with the common Level.

I consider these Instruments admirably calculated for laying out Railroads, and can recommend them to the notice of Engineers as preferable to any others for that purpose.

HENRY B. CAMPBELL, Eng. Philad.,
Germant. and Norrist. Railroad.

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